Safe, Clean Water
and Natural Flood Protection

Fiscal Year 2018-2019 | Year 6

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Valley Water

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Safe, Clean Water
and Natural Flood Protection
Fiscal Year 2018-2019 | Year 6

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November 22, 2019

Valley Water
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Valley Water

Safe, Clean Water and Natural Flood Protection Fiscal Year 2018-19 Annual Report

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Safe, Clean Water and Natural Flood Protection Fiscal Year 2018-19 Annual Report

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MESSAGE FROM THE CHIEF EXECUTIVE OFFICER

November 2019

Fiscal Year 2018-19 (FY19) marks the sixth of the 15-year Safe, Clean Water and Natural Flood Protection Program (Safe, Clean Water Program). This report (Year 6 annual report) presents a status update on the implementation of projects during FY19.

On November 6, 2012, voters approved the Safe, Clean Water Program as a countywide special parcel tax for 15 years with a sunset date of June 30, 2028. This program replaced the Clean, Safe Creeks and Natural Flood Protection Plan, which voters approved in November 2000.

The Safe, Clean Water Program addresses the following needs, values, and priorities as identified by Santa Clara County stakeholders:

Priority A: Ensure a Safe, Reliable Water Supply

Priority B: Reduce Toxins, Hazards and Contaminants in our Waterways

Priority C: Protect our Water Supply from Earthquakes and Natural Disasters

Priority D: Restore Wildlife Habitat and Provide Open Space

Priority E: Provide Flood Protection to Homes, Businesses, Schools, and Highways

Each year, the Santa Clara Valley Water District (Valley Water) prepares a report providing a progress update for each of these Program priorities, along with fiscal year accomplishments.

To date, Valley Water has completed three projects along with multiple Key Performance Indicators (KPIs) for various projects and laid the groundwork for many other projects to be completed in the coming years. Key highlights from FY19 accomplishments consistent with Valley Water's core mission areas include:

Water Supply

- **Main Avenue and Madrone Pipelines Restoration:** Completed construction and restored the Main Avenue and Madrone pipelines to full operating capacity. The transmission pipeline from Anderson Reservoir was restored to an operating capacity of 37 cubic feet per second (cfs), (KPI #1), in June 2019. The transmission pipeline to the Madrone Channel was restored to deliver 20 cfs (KPI #2) in January 2019. This project will increase Valley Water's groundwater recharge in South County by about 2,000 acre-feet per year and maximize the delivery of imported water to treatment plants supplying drinking water to North County.
- **Pipeline Reliability:** Project work began and planning, preliminary design and 30% design for three (3) of the four (4) line valves was completed. Data collection and assessment of optimal valve location for the fourth line valve was also completed.

Flood Protection

- **San Francisquito Creek Flood Protection:** Valley Water completed the construction of the S.F. Bay to Highway 101 reach of the project in May 2019. Major work elements installed, included approximately 4,000 feet of floodwalls and a significantly wider creek marsh plain. The completion of this stretch protects approximately 3,000 parcels in Palo Alto from a flood event close to the February 1998 flood, the largest on record.
- **San Francisco Bay Shoreline Protection:** Valley Water began pre-construction work in Alviso on the first phase of the project to be constructed for Economic Impact Area (EIA) 11--Urban area of North San José/ Alviso/San Jose-Santa Clara Regional Wastewater Facility. Pre-construction activities include stockpiling approximately 300,000 cubic yards of levee fill in pond A12, north of the Alviso Marina County Park. This material will be used to construct a levee that will reduce coastal flood risks for the community of Alviso and nearby infrastructure facilities and businesses. In June 2019, San Francisco Bay's Restoration Authority awarded Round 2 grant of $57 million to Valley Water for construction of EIA 11. The grant is expected to be disbursed over five (5) years as project partners proceed with design and construction of EIA 11 of the Shoreline Project.
- **Permanente Creek Flood Protection:** Valley Water completed channel improvement construction in December 2018. Continued construction of the McKelvey Park and Rancho San Antonio detention sites, with completion scheduled in FY20. Once completed, this project will provide 1% flood protection to approximately 1,664 parcels in Mountain View and Los Altos.
- **Upper Llagas Creek Flood Protection:** Valley Water completed design work for Phase 1 - Reaches 4, 5 (portion), and 7A (Buena Vista Avenue to Highway 101 in San Martin and from Monterey Road to Watsonville Road in Morgan Hill). Phase 1 construction will begin in FY20, with completion due by FY22.
- **Sediment Removal:** Valley Water completed 15 sediment removal projects, removing 18,164 cubic yards of sediment to reduce flood risks by maintaining the design conveyance capacity of streams where Valley Water has built flood protection projects. The amount of sediment removed in FY19 would fill up a football field 8.5 feet deep. The Safe, Clean Water Program funds 14% of this work.
- **Vegetation Control:** Valley Water completed 1,096 acres of in-stream vegetation management to reduce flood risk on 153 miles of streams throughout the county. The work is carried out through an integrated combination of mechanical, hand labor and herbicide methods.
- **Flood-Fighting Action Plans:** Valley Water completed flood-fighting action plans, also known as emergency action plans, for Guadalupe River and its tributaries Ross and Canoas Creeks in Guadalupe Watershed; and West Little Llagas and Uvas creeks in Uvas/LLagas Watershed. With the completion of these two action plans, Valley Water has completed four (4) of the five (5) watershed action plans.

Stewardship

- **Trash Removal:** Of the seven (7) projects in Priority B, five (5) include trash removal components with the goal to reduce and remove contaminants in our local creeks, streams and bay. This work is accomplished not only by Valley Water but with the help of volunteers and grantees alike. In FY19, 958.7 tons of trash were removed from our waterways.
- **Safe, Clean Water Stewardship Grants:** Through Priorities A, B and D, Valley Water awarded more than $2.4 million in grants and partnerships. These dollars are for local grantees for projects addressing issues

such as water conservation, water quality, storm water pollution reduction, storm water quality, trash removal and reduction along our waterways, restoring wildlife habitat, and providing access to trails.

- **Fish Habitat Improvement:** In June, Valley Water began construction work on the Los Gatos Creek gravel augmentation/large woody debris placement project, which is located on Los Gatos Creek, just downstream of Highway 17. Construction is expected to be completed in summer 2019. Gravel and large woody debris placement improves fish habitat by adding suitable creek bed materials for food production and spawning and adds complexity to streamflow by reducing velocity and promoting channel stability, allowing riffles to form. These habitat complexities make it easier for fish to migrate and provides areas to rest and seek refuge from predators. These modifications improve stream conditions for both adult and juvenile steelhead as well as other native fish in the watershed.

To ensure transparency and accountability, the Board established an Independent Monitoring Committee (IMC) to monitor the program's progress and to ensure the outcomes are achieved in a cost-efficient manner. Each year, the Board authorizes finalization of the prior fiscal year's annual report and submittal to the IMC for its review.

The Year 5 annual report was reviewed by the IMC and recommendations for improving the report were presented to the Board. These recommendations have been incorporated into the Year 6 annual report. One such improvement is that flood protection project maps now clearly delineate the areas protected by the preferred option, which are federally funded, as well as the locally funded only option. Furthermore, where available, these maps show the updated 1% flood risk zone as per the most recent data and design flow estimates. The 1% flood risk zones are areas that will be inundated by a flood event that has a 1% chance of occurring in any given year. Valley Water appreciates each IMC member for volunteering and looks forward to the committee's review of the Year 6 annual report.

The accomplishments presented in this report would not have been achieved without Valley Water's dedicated employees, each of whom is committed to the success of the Safe, Clean Water Program and will continue to work hard to provide Silicon Valley safe, clean water for a healthy life, environment, and economy.

The FY19 annual report and independent audit are available to the public at https://www.valleywater.org/project-updates/safe-clean-water-and-natural-flood-protection-program/safe-clean-water-program-archive. Also available is the Safe, Clean Water 5-Year Implementation Plan for FYs19-23, which provides direction for the second 5 years of the 15-year Program and is updated annually to reflect any adjustments or modifications.

We welcome your inquiries and insightful comments on the FY19 annual report.

Sincerely,

Norma J. Camacho,
Chief Executive Officer, Santa Clara Valley Water District

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List of Abbreviations

Abbreviation	Description
AAC	Adopt-A-Creek
ACWA	Association of Clean Water Agencies
AMI	Advanced Metering Infrastructure
ADSRP	Anderson Dam Seismic Retrofit Project
AQPI	Advanced Quantitative Precipitation Information
AVW	Access Valley Water
BART	Bay Area Rapid Transit
BASMAA	Bay Area Stormwater Management Agencies Association
BCDC	San Francisco Bay Conservation and Development Commission
BMP	Best management practice
BRRIT	Bay Restoration Regulatory Integration Team
Cal-IPC	California Invasive Plan Council
CAP	Continuing Authorities Program
CASQA	California Stormwater Quality Association
CDFW	California Department of Fish and Wildlife
CCNEET	Coyote Creek Native Ecosystem Enhancement Tool
CEO	Chief Executive Office
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFS	Cubic feet per second
CIP	Capital Improvement Program
CLOMR	Conditional Letter of Map Revision
CRAM	California Rapid Assessment Method
CRS	Community Rating System
CSC	Clean, Safe Creeks and Natural Flood Protection Program
CY	Cubic yards
DEIR	Draft Environmental Impact Report
DSOD	Division of Safety of Dams
EAP	Emergency Action Plan
EOC	Emergency Operations Center

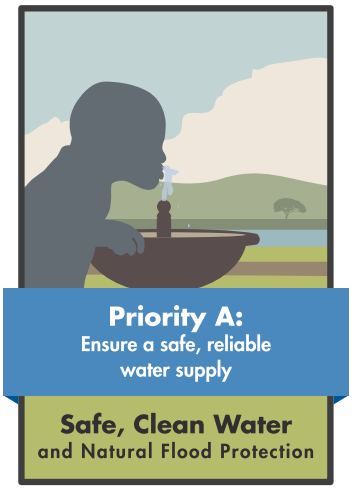
List of Abbreviations

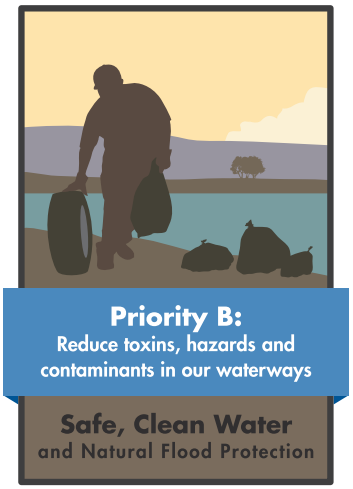
EIA	Economic Impact Area
EIR	Environmental Impact Report
ESA	Environmental Science Associates or Endangered Species Act
FCSA	Feasibility Cost Share Agreement
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FY	Fiscal year
GI	General Investigation
GIS	Geographic Information Systems
GSI	Green Stormwater Infrastructure
IMC	Independent Monitoring Committee
IRWMP	San Francisco Bay Area Integrated Regional Water Management Plan
KPI	Key Performance Indicator
LEDPA	Least Environmentally Damaging Practicable Alternative
LFA	Limiting Factors Analysis
LOMR	Letter of Map Revision
LWD	Large woody debris
MAC	Multi-Agency Coordination
MidPen	Mid-Peninsula Regional Open Space District
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NASA	National Aeronautics and Space Administration
NCCP	Natural Communities Conservation Plan
NFIT	National Flood Insurance Program
NMFS	National Marine Fisheries Service
NOAA	National Oceanographic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NWR	National Wildlife Refuge
O&M	Operations and Maintenance Division
RFP	Request for Proposals
RWQCB	Regional Water Quality Control Board

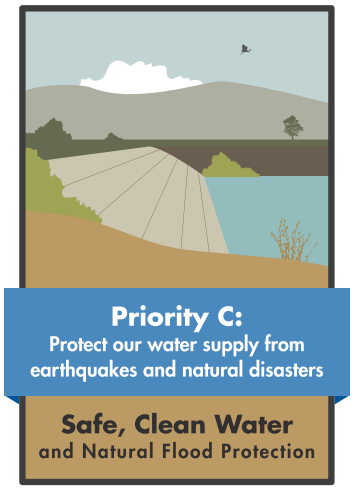
List of Abbreviations

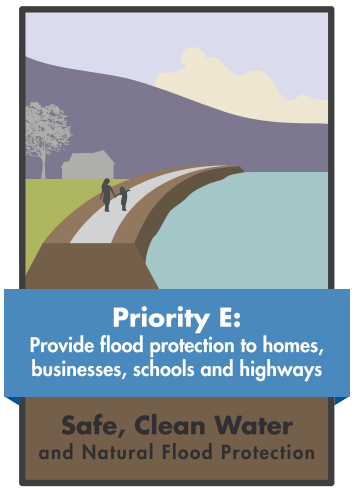
RWRC	Recycling & Waste Reduction Commission
SBSPRP	South Bay Salt Pond Restoration Phase
SCC	Santa Clara County
SCPP	Stream Corridor Priority Plan
SCVURPPP	Santa Clara Valley Urban Runoff Pollution Prevention Program
SFCJPA	San Francisquito Creek Joint Powers Authority
SFEI	San Francisco Estuary Institute
SFPUC	San Francisco Public Utilities Commission
SJPD	San José Police Department
SMP	Stream Maintenance Program
SPRR	Southern Pacific Railroad
SWRCB	State Water Resources Control Board
SWRP	Storm Water Resource Plan
TAC	Technical Advisory Committee
TMDL	Total Maximum Daily Load
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Services
USGS	U.S. Geological Survey
Valley Water	Santa Clara Valley Water District
VHA	Santa Clara Valley Habitat Agency
VHP	Santa Clara Valley Habitat Plan
VTA	Santa Clara Valley Transportation Authority

Safe, Clean Water and Natural Flood Protection









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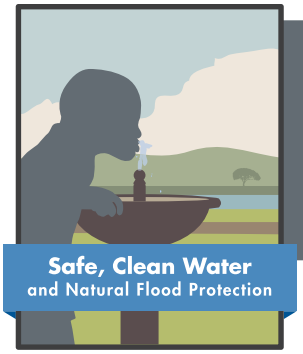


FY 2018-19 Annual Report

Safe, Clean Water and Natural Flood Protection

Valley Water

PROGRAM SUMMARY

The Safe, Clean Water and Natural Flood Protection Program (Safe, Clean Water Program) is a 15-year strategy to ensure uninterrupted water resources services in Santa Clara County. The Program was developed through more than 18 months of community collaboration, with input from more than 16,000 residents and stakeholders, to prepare for the scheduled sunset of Clean, Safe Creeks and Natural Flood Protection Plan (CSC) funding. The result of this effort is a program that fulfills our community's top priorities to:

Priority A: Ensure a Safe, Reliable Water Supply

Priority B: Reduce Toxins, Hazards and Contaminants in our Waterways

Priority C: Protect our Water Supply from Earthquakes and Natural Disasters

Priority D: Restore Wildlife Habitat and Provide Open Space

Priority E: Provide Flood Protection to Homes, Businesses, Schools, and Highways

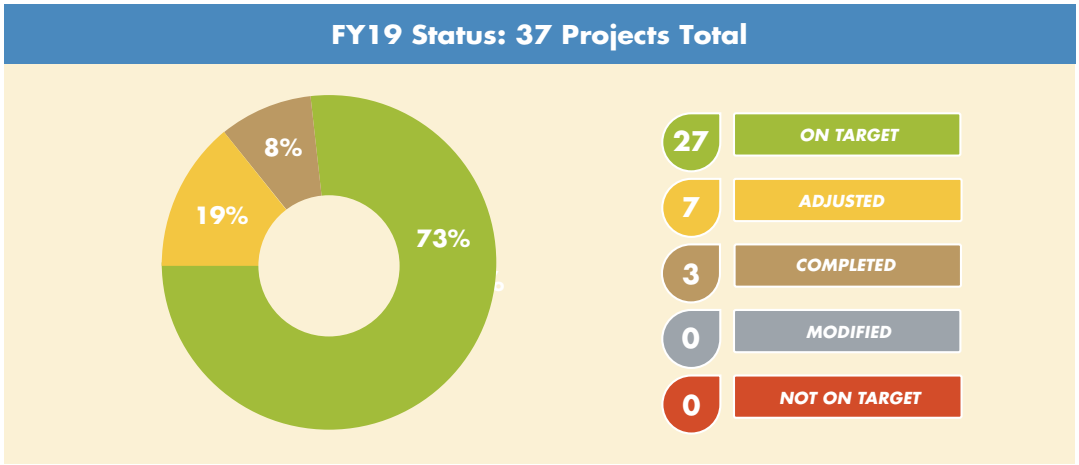
Santa Clara County voters passed the Safe, Clean Water ballot measure in November 2012 by an overwhelming majority – nearly 74%. The Safe, Clean Water Program extends funding at the same parcel tax rate approved under the previous CSC plan, and ensures a seamless continuation of critical water-related services to Santa Clara County. The 2012 Board resolution providing for the special parcel tax and the ballot language, along with all adjustments and modifications to the original Safe, Clean Water Program, can be found at: https://www.valleywater.org/project-updates/safe-clean-water-and-natural-flood-protection-program/safe-clean-water-program-archive.

This report is the sixth of 15 annual reports to be prepared for the Safe, Clean Water Program and provides project status towards accomplishing Program Key Performance Indicators (KPIs) and the targets in the 5-Year Implementation Plan:

- On Target: Status indicates the project is on track to meet targets
- Adjusted: Status indicates the potential that targets will not be met and implementation required a schedule adjustment (future year status will be based upon the adjusted schedule)
- Not on Target: Status indicates that the target has not been or will not be met
- Modified: Status indicates the Board formally modified the project following a public hearing (future year status' will be based upon the modified project targets)
- Completed: Status indicates that the project has been completed and the KPIs have been met

There are 37 projects under the Safe, Clean Water Program. As indicated in Table 1 (p. 3), approximately 73% (27 projects) are on target ( ); 19% (7 projects) required schedule adjustments ( ); and 8% (3 projects) were completed ( ). See Graph 1 (p. 2).

Graph 1



For Fiscal Year 2018-19 (FY19), the adjusted budget for the Safe, Clean Water Program totaled $138.6 million. Actual funds expended and encumbered as of June 30, 2019 were $56.5 million, approximately 41% of the Safe, Clean Water Program's adjusted budget. Underspending was primarily due to delays in construction and real estate acquisition for the following capital flood protection projects: Upper Guadalupe River (E8); Upper Llagas Creek (E6); and Sunnyvale East and West Channels (CSC). Project construction delays occurred primarily as a result of: delays in federal funding affecting the schedule, on-going negotiations with various resource agencies, delays in acquisition of regulatory permits, delays in land acquisition and incorporating design changes. To address delays in obtaining permits, the Valley Water permit strategy team continues to work on short-and long-term strategies to secure timely permits.

To address recommendations made by the Independent Monitoring Committee (IMC), Valley Water utilizes a rating system for capital projects that include confidence levels for schedule, funding, permits and jurisdictional complexity (the level to which a project's deliverables can be impacted by other entities or jurisdictions). By applying a confidence level to each of these topics, the IMC and community will be able to identify the areas of concern for each project that could impact the probability for the project to remain On Target. The confidence levels are addressed under the Opportunities and Challenges section for each of the capital projects. Appendix D can be referenced to delve into the confidence levels for each capital project, as well as demonstrate the jurisdictional complexity related to funding sources, regulatory permitting and coordination between cities, counties and other agencies. Listed below are the three (3) confidence levels and their definitions:

- **High** – Applies to projects that have achieved the following: received full funding, received regulatory permits, met schedule milestones (and will continue to move forward on schedule) and, if applicable, jurisdictional complexity issues have been resolved.
- **Moderate** – Applies to projects that are in the process of the following: receiving funding from other sources, receiving permits, recommending the Board approve a schedule adjustment and, if applicable, resolving jurisdictional complexity issues.
- **Low** – Applies to projects that have a high probability of experiencing or already have been: denied funding, denied permits, delayed in schedule and, if applicable, jurisdictional complexity issues that are impacting completion of the project.

In response to FY18 IMC recommendations, the report includes a new table, Appendix A-2.1, detailing the breakdown of currently authorized projects. Additionally, a list of abbreviations has been added in the front of the report and the Glossary (Appendix J) has been updated. For further project and contact information, visit: https://www.valleywater.org/project-updates/safe-clean-water-and-natural-flood-protection-program.

Table 1

Project	Project Description	Status
Priority A: Ensure a Safe, Reliable Water Supply		
A1	Main and Madrone Avenue Pipelines Restoration	COMPLETED
A2	Safe, Clean Water Partnerships and Grants	ON TARGET
A3	Pipeline Reliability Project	ON TARGET
Priority B: Reduce Toxins, Hazards, and Contaminants in our Waterways		
B1	Impaired Water Bodies Improvement	ON TARGET
B2	Interagency Urban Runoff Program	ON TARGET
B3	Pollution Prevention Partnerships and Grants	ON TARGET
B4	Good Neighbor Program: Encampment Cleanup	ON TARGET
B5	Hazardous Materials Management and Response	ON TARGET
B6	Good Neighbor Program: Remove Graffiti and Litter	ON TARGET
B7	Support Volunteer Cleanup Efforts and Education	ON TARGET
Priority C: Protect our Water Supply from Earthquakes and Natural Disasters		
C1	Anderson Dam Seismic Retrofit[1]	ON TARGET
C2	Emergency Response Upgrades	ON TARGET
Priority D: Restore Wildlife Habitat and Provide Open Space		
D1	Management of Revegetation Projects	ON TARGET
D2	Revitalize Stream, Upland and Wetland Habitat	ON TARGET
D3	Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails	ON TARGET
D4	Fish Habitat and Passage Improvement	ADJUSTED
D5	Ecological Data Collection and Analysis	ON TARGET
D6	Creek Restoration and Stabilization	ADJUSTED
D7	Partnerships for the Conservation of Habitat Lands	ON TARGET
D8	South Bay Salt Ponds Restoration Partnership	ON TARGET
Priority E: Provide Flood Protection to Homes, Businesses, Schools, and Highways		
E1.1	Vegetation Control for Capacity	ON TARGET
E1.2	Sediment Removal for Capacity	ON TARGET
E1.3	Maintenance of Newly Improved Creeks	ON TARGET
E1.4	Vegetation Management for Access	ON TARGET
E2	Emergency Response Planning	ON TARGET
E3	Flood Risk Reduction Studies	ON TARGET
E4	Upper Penitencia Creek Flood Protection	ON TARGET
E5	San Francisquito Creek Flood Protection	ADJUSTED
E6	Upper Llagas Creek Flood Protection	ADJUSTED
E7	San Francisco Bay Shoreline Protection	ON TARGET
E8	Upper Guadalupe River Flood Protection	ON TARGET
Other Flood Protection Projects and Clean, Safe Creeks Grants Projects		
	Permanente Creek Flood Protection	ADJUSTED
	Sunnyvale East and Sunnyvale West Channels Flood Protection	ADJUSTED
	Berryessa Creek Flood Protection	COMPLETED
	Coyote Creek Flood Protection	ON TARGET
	Calabazas Creek Flood Protection	COMPLETED
	Clean Safe Creeks Grants Projects	ADJUSTED

[1] The project is On Target to meet the Safe, Clean Water Program KPI of providing up to $45 million (2012 dollars) to help restore full operating reservoir capacity. However, the estimated project construction has been revised to begin in October 2022. For more information, see Opportunities and Challenges section on page 52.

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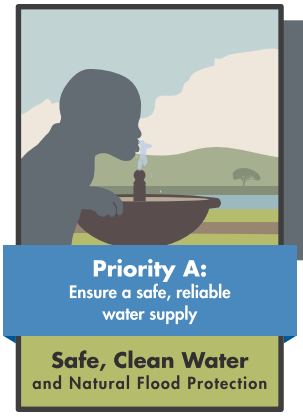


Priority A

Ensure a Safe, Reliable Water Supply

Projects under Priority A will upgrade aging water transmission systems to increase pipeline capacity and reduce the risk of water outages. The priority also provides grants to develop future conservation programs, helps local schools fulfill state mandates for drinking water availability, and provides rebates on nitrate removal systems to improve water quality and safety for private well users.

Project A1
Main Avenue and Madrone Pipelines Restoration

Project A2
Safe, Clean Water Partnerships and Grants

Project A3
Pipeline Reliability Project

Main Ave. pipeline installation.

COMPLETED

Project A1 FY19 Highlights

- The transmission pipeline from Anderson Reservoir was restored to an operating capacity of 37 cfs in June 2019.
- The transmission pipeline to the Madrone Channel was restored to deliver 20 cfs in January 2019.

Project A1

Main Avenue and Madrone Pipelines Restoration

This project will restore the Main Avenue and Madrone pipelines to full operating capacity of conveying 10 cubic feet per second (cfs) and 27 cfs, respectively, for a total of 37 cfs from Anderson Reservoir or the Santa Clara Conduit for groundwater recharge via the Main Avenue Recharge Ponds and the Madrone Channel. The project will plan, design, and construct approximately 14,000 linear feet or 2.6 miles of 30-inch to 36-inch diameter pipeline and associated appurtenances.

Benefits

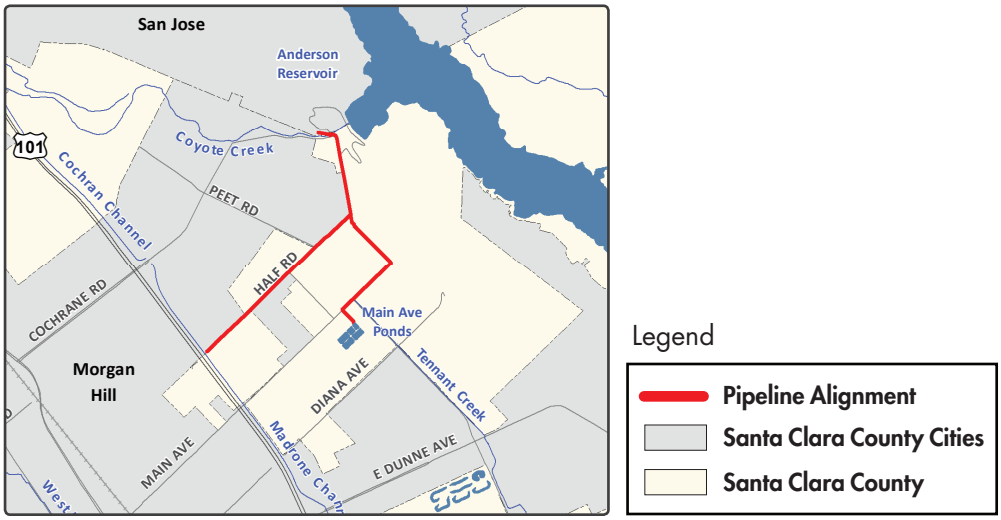
- Increases groundwater recharge by about 2,000 acre-feet per year in South County's Llagas Groundwater Sub-basin, a sufficient water supply for 4,000 families of 5.
- Improves operational flexibility.
- Maximizes the delivery of imported water to treatment plants supplying drinking water to North County.
- Saves energy, reduces operating costs, and cuts CO_2 emissions by reducing dependence on Coyote Pumping Plant.

Key Performance Indicators (15-year Program)

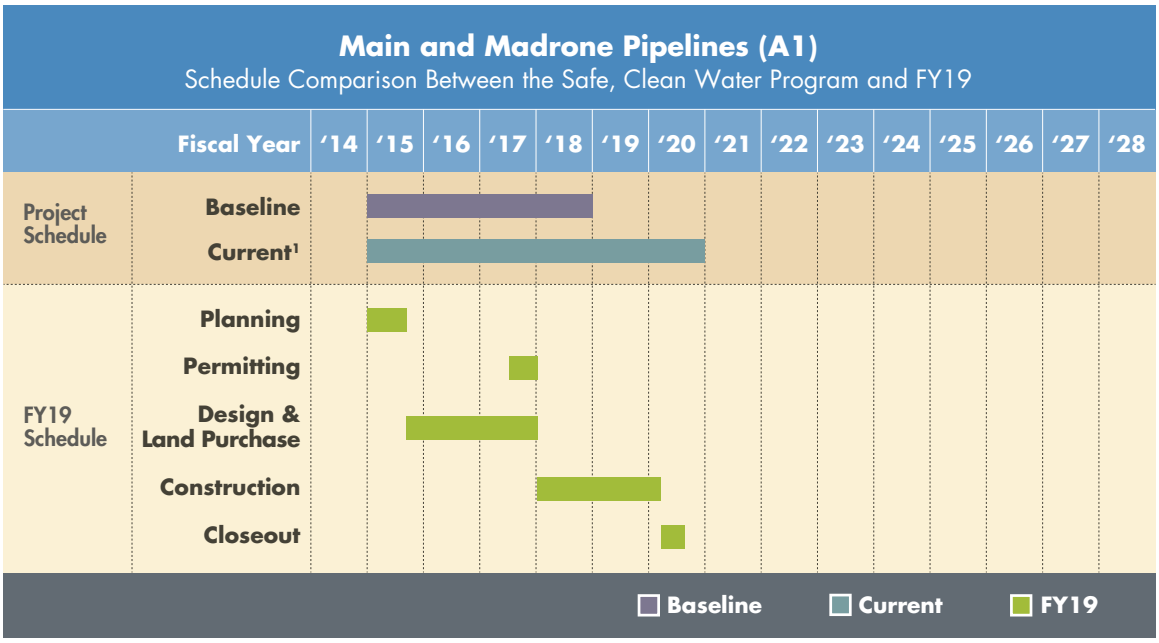
1. Restore transmission pipeline to full operating capacity of 37 cfs from Anderson Reservoir.
2. Restore ability to deliver 20 cfs to Madrone Channel.

Geographic Area of Benefit: Countywide

Project Location



Schedule



[1] Board approved schedule adjustment through the change control process in FY16 & FY19.

Status History

Fiscal Year	Status
FY 14	*SCHEDULED TO START*
FY 15	*ON TARGET*
FY 16	*ADJUSTED*
FY 17	*ON TARGET*
FY 18	*ON TARGET*

Status for FY19: COMPLETED

Progress on KPI #1 and #2:

- Project work continued in FY19. The transmission pipeline from Anderson Reservoir was restored to an operating capacity of 37 cfs in June 2019. The transmission pipeline to the Madrone Channel was restored to deliver 20 cfs in January 2019.

Financial Information

In FY19, 108% of the annual project budget was expended.

The project delivered its KPI's within the financial forecast. The total cost of the project was $17.6 million, with Safe, Clean Water Program providing $6.2 million and the Water Utility Enterprise Fund contributing the remaining $11.4 million.

Financial Summary ($ Thousands)
A1. Main Avenue and Madrone Pipelines Restoration

Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$934	$1,010	$0	$1,010	108%	$17,573	98%

Project A2

Safe, Clean Water Partnerships and Grants

Grants and partnerships covered under this project include:

- Grants for agencies and organizations to study and pilot-test new water conservation programs. In FY10, county water conservation stood at 50,600 acre-feet, but this number needs to nearly double by 2030 to meet future demand.
- Grants to help schools in the county provide drinking water dispensers and other potable water devices for students. California Senate Bill 1413 (SB 1413) requires that schools provide access to free, fresh drinking water during mealtimes in food service areas.
- Rebates to private well water users for the installation of point-of-use treatment systems to remove excess nitrate from their drinking water.

Benefits

- Helps Valley Water exceed the conservation goal of 98,500 acre-feet per year by 2030.
- Reduces water demands and the need to invest in new or expanded water supply sources and associated infrastructure.
- Increases water supply reliability.
- Helps schools provide safe, clean drinking water to students and comply with state mandate.
- Assists private well water users in maintaining the quality and safety of their drinking water.

Key Performance Indicators (15-year Program)

1. Award up to $1 million to test new conservation activities.
2. Increase number of schools in Santa Clara County in compliance with SB 1413 and the Healthy Hunger-Free Kids Act, regarding access to drinking water by awarding 100% of eligible grant requests for the installation of hydration stations; a maximum of 250 grants up to $254,000.
3. Reduce number of private well water users exposed to nitrate above drinking water standards by awarding 100% of eligible rebate requests for the installation of nitrate removal systems; up to $30,000 for all rebates.

Geographic Area of Benefit: Countywide

Water to Go station at Fremont High School.

ON TARGET

Project A2 FY19 Highlights

- The Board approved a funding amount for the FY19 grant cycle of up to $120,000 for KPI #1.
- The Board approved one (1) grant proposal for a total of $30,000.
- Awarded 100% of eligible nitrate treatment system rebate requests totaling $1,500 for three (3) nitrate removal systems.

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	MODIFIED

Status for FY19: ON TARGET

Progress on KPI #1:

- The Board approved a funding amount for the FY19 grant cycle of up to $120,000. Three (3) grant applications were received, of which the Board approved the one (1) recommended proposal for a total of $30,000 (See Appendix C). This agreement was not fully executed prior to the close of FY19.
- The total amount awarded to date is $676,132. However, unspent funds from projects closed before completion ($105,000) have been returned to the Safe, Clean Water Program Reserve.
- See Appendix C for a cumulative list of grants and partnerships awarded to date.

Progress on KPI #2: *(Completed in FY18)*

- This KPI was delivered in FY18.

Progress on KPI #3:

- In FY19, 100% of eligible rebate requests totaling $1,500 were awarded to private well users for the installation of three (3) nitrate removal systems. Total amount awarded to date is $11,463.

Financial Information

Water Conservation Grant Program (KPI #1)

In FY19, 11% of the total annual project budget was expended.

The under expenditure is a result of the delay in execution of the grant agreement. The grant funds that were budgeted for FY19 will be adjusted into FY20 to align with the agreement executions.

Nitrate Treatment System Rebate Program (KPI #3)

In FY19, 38% of the annul project budget was expended.

The under expenditure was due to few rebates being requested. See the Opportunities and Challenges section for additional information about the modification to the overall funding allocation for KPI #3.

Financial Summary ($ Thousands) A2. Safe, Clean Water Partnerships and Grants							
Fiscal Year 2018-2019						15-year Program	
Project No. and Name	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan*	% of Plan Spent
		Actual	Encumbrance	Total			
26061008 Water Conservation	$130	$15	$0	$15	11%	$1,272	51%
26062009 Hydration Stations	$0	$0	$0	$0	0%	$300	101%
26061010 Nitrate Treatment System Rebate	$4	$2	$0	$2	38%	$231	53%
Total	**$134**	**$16**	**$0**	**$16**	**12%**	**$1,803**	**60%**

Opportunities and Challenges

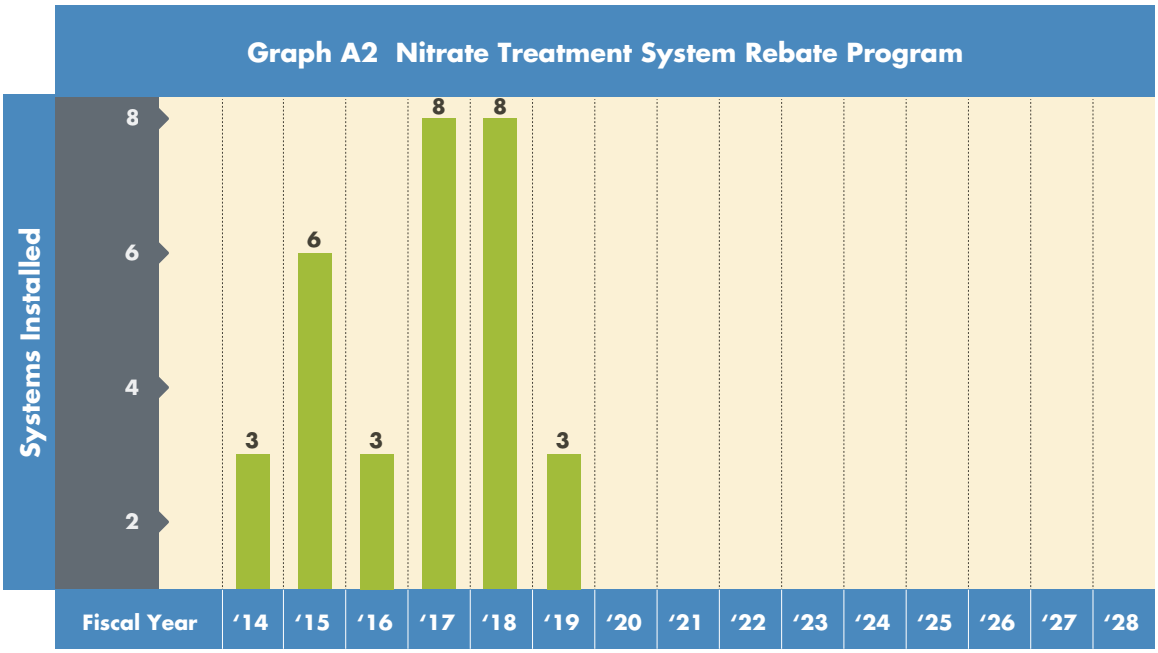
Water Conservation Grant Program

Appendix C includes an update on the status of all conservation grants awarded to date. Valley Water will be utilizing the results of some of these grant-funded pilot studies listed in Appendix C to expand its current water conservation program. For example, in FY18, the Board approved moving forward with implementing several new water conservation programs, including advanced metering infrastructure (AMI). Valley Water utilized the results of the various grant-funded AMI pilot studies to design the AMI Program, which will be launched in FY20.

Nitrate Treatment System Rebate Program

On February 27, 2018, after years of monitoring outreach improvements, participation incentives and the resulting low participation levels for the Nitrate Treatment System Rebate Program, the Independent Monitoring Committee recommended a modification to reduce the funding allocation included in the KPI to reflect the community demand for nitrate treatment system rebates. On May 23, 2018, in accordance with the Change Control Process, the Board approved a modification to KPI #3 for the Nitrate Treatment System Rebate Program to reduce funding, with an annual allocation of $4,000 for rebates through the project's 2023 completion date.

While the budget has been reduced to align with demand, Valley Water continues to explore ways to inform well owners about the rebate program and increase participation. FY19 program outreach efforts included direct mailings to well owners through co-promotion with the domestic well testing program, and presentations at various meetings with South County residents and community groups. Despite these efforts, program participation has not increased.


Graph A2 Nitrate Treatment System Rebate Program
Systems Installed
8
6
4
2
3
6
3
8
8
3
Fiscal Year
'14
'15
'16
'17
'18
'19
'20
'21
'22
'23
'24
'25
'26
'27
'28

Shannon line valve.

ON TARGET

Project A3 FY19 Highlights

- Project work was initiated in FY19.
- Planning, preliminary design and 30% design for three (3) of the line valves are complete.
- Data collection and assessment of optimal valve location for the fourth line valve was completed.

Project A3

Pipeline Reliability Project

This project constructs 4 line valves at various locations along the East, West and Snell treated water pipelines in Saratoga, Cupertino and San José. This will allow Valley Water to isolate sections of pipelines for scheduled maintenance and repairs following a catastrophic event, such as a major earthquake.

Benefits

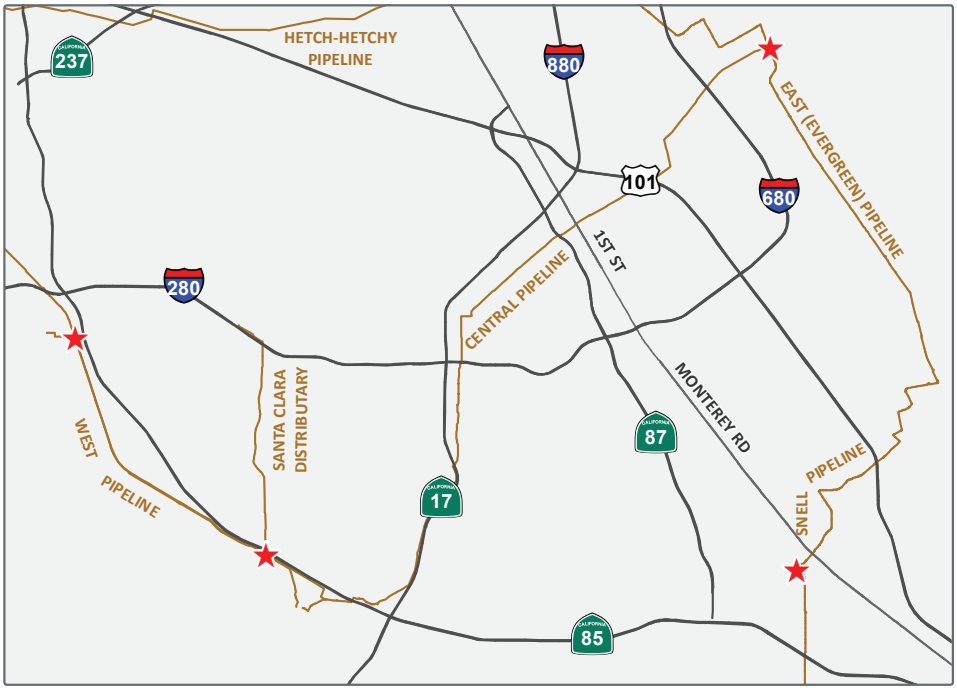
- Supports shorter service interruption in the case of a pipeline break
- Provides operational flexibility for pipeline maintenance work
- Improves drinking water reliability

Key Performance Indicator (15-year Program)

1. Install 4 new line valves on treated water distribution pipelines.

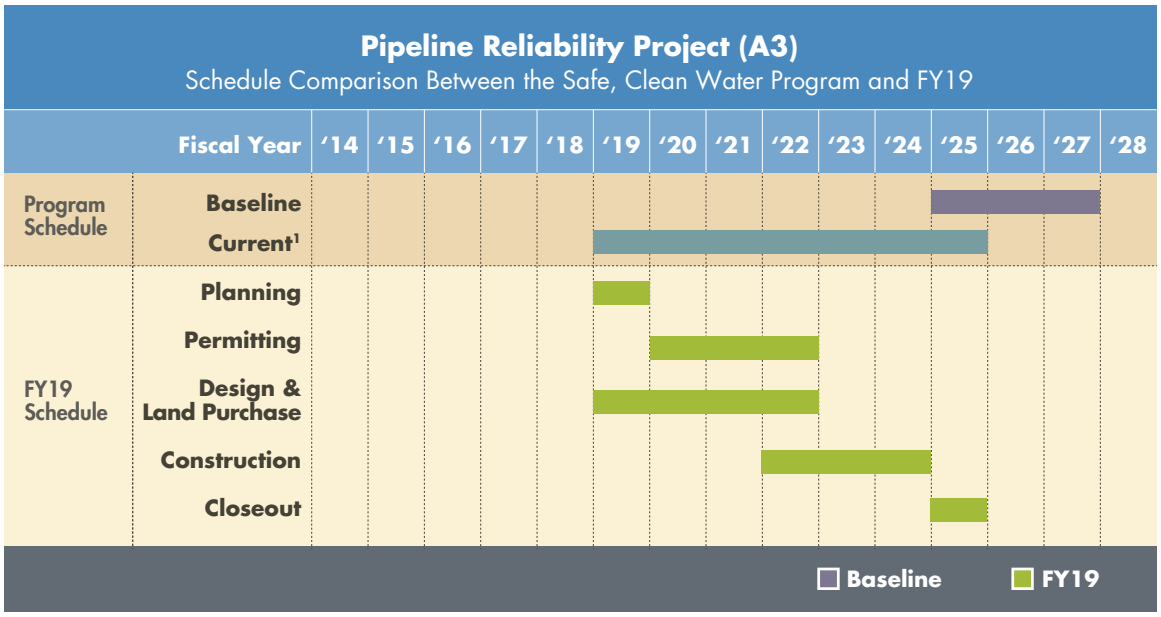
Geographic Area of Benefit: Mountain View, Sunnyvale, Santa Clara, Cupertino, Saratoga, Los Gatos, Los Altos, Campbell, San José and Milpitas

Project Location



★ Project Locations Santa Clara County

Schedule



[1]Board approved a schedule adjustment through the change control process in FY17.

Status History

Fiscal Year	Status
FY 14	*SCHEDULED TO START*
FY 15	*SCHEDULED TO START*
FY 16	*SCHEDULED TO START*
FY 17	*SCHEDULED TO START*
FY 18	*SCHEDULED TO START*

Status for FY19: ON TARGET

Progress on KPI #1:

- Project work was initiated in FY19. Planning, preliminary design and 30% design for three (3) of the line valves are complete. Data collection and assessment of optimal valve location for the fourth line valve was completed. Design development for all four (4) line valves will continue in FY20. Line valve construction is scheduled for inclusion in the FY22 to FY24 pipeline maintenance projects, as programmed in Valley Water's current long-term maintenance plan.

Financial Information

In FY19, 26% of the annual project budget was expended.

The under-expenditure was because a decision was made to conduct in FY20 the Design Development tasks that had initially been planned for FY19. This was done to better align the project with Valley Water's larger long-term pipeline operations and maintenance program. As this is a capital project, the corresponding funding will be carried forward to FY20.

Financial Summary ($ Thousands)
A3. Pipeline Reliability Project

Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$1,090	$279	$0	$279	26%	$11,515	2%

Opportunities and Challenges

Acquisition of Easements

Permanent easement acquisition will not be required for the project. Line valves will be installed in existing Valley Water pipeline easements and/or public rights-of-way.

Confidence levels

Schedule: Moderate Confidence

Completion of the remaining project activities is on schedule.

Funding: High Confidence

Funding from the Safe, Clean Water Program is expected to be sufficient to complete the project work.

Permits: Moderate Confidence

There has been no indication that permit acquisition will be challenging.

Jurisdictional Complexity: High Confidence

Coordination with the County of Santa Clara, City of San José, City of Saratoga and City of Cupertino has been initiated. There has been no indication that jurisdictional issues will be challenging.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

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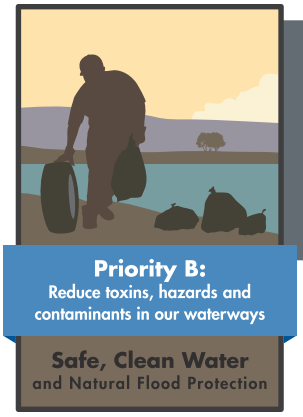


Priority B

Reduce Toxins, Hazards and Contaminants in our Waterways

Projects under Priority B use multiple strategies to reduce and remove contaminants in our local creeks, streams and bay. In addition to mercury treatment systems in our reservoirs, projects under this priority also prevent toxins from entering waterways by working with municipalities and other agencies to reduce runoff pollution. Valley Water also provides grants to reduce emerging contaminants and supports public education and volunteer cleanup efforts. Additional projects include coordinated cleanup of encampments near waterways, trash and graffiti removal, and rapid emergency response to hazardous materials spills.

Project B1
Impaired Water Bodies Improvement

Project B2
Interagency Urban Runoff Program

Project B3
Pollution Prevention Partnerships and Grants

Project B4
Good Neighbor Program: Encampment Cleanup

Project B5
Hazardous Materials Management and Response

Project B6
Good Neighbor Program: Remove Graffiti and Litter

Project B7
Support Volunteer Cleanup Efforts and Education

Reservoir Sampling with USGS.

ON TARGET

Project B1 FY19 Highlights

- Operated and maintained existing oxygenation treatment systems in four (4) reservoirs (Almaden, Calero, Guadalupe, and Stevens Creek).
- Implemented five (5) priority pollution and reduction activities at 27 waterbodies, including 14 creeks and the Guadalupe River.

Project B1

Impaired Water Bodies Improvement

This project helps Valley Water meet surface water quality standards and reduces pollutants in streams, groundwater, lakes and reservoirs. Efforts are carried out in compliance with the Regional Water Quality Control Board (RWQCB) Total Maximum Daily Loads (TMDLs) standards as they continue to evolve (TMDLs are the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards). Under this project, Valley Water employs treatment systems in reservoirs to reduce methylation of mercury, and also helps create realistic plans and expectations for reducing contaminant loads by engaging in the regulatory development process with the RWQCB for new and emerging contaminants.

Benefits

- Reduces contamination in creeks and reservoirs
- Improves water quality, including water going to drinking water treatment plants
- Reduces methylmercury in reservoirs to prevent its entry into the food web
- Improves ecosystem health by reducing mercury contamination in fish and other biota
- Supports regulatory compliance of TMDL standards affecting Valley Water operations

Key Performance Indicators (15-year Program)

1. Operate and maintain existing treatment systems in 4 reservoirs to remediate regulated contaminants, including mercury.
2. Prepare plan for the prioritization of pollution prevention and reduction activities.
3. Implement priority pollution prevention and reduction activities identified in the plan in 10 creeks.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET

Status for FY19: ON TARGET

Progress on KPI #1:

- Operated and maintained existing oxygenation treatment systems (systems) in four (4) reservoirs (Almaden, Calero, Guadalupe, and Stevens Creek) to reduce methylmercury production and improve water quality. Valley Water is subject to the Guadalupe River Watershed Mercury TMDL, but initiated voluntary methylmercury production and control studies in 2005 prior to its adoption.

Oxygenation System Operation

Hypolimnetic oxygenation systems are operated to prevent anaerobic (no-oxygen) conditions that occur during summer reservoir stratification. Stratification is a separation of the water into two (2) layers of differing temperature: the epilimnion (top layer) and the hypolimnion (bottom layer). During stratification, oxygen can be depleted in the hypolimnion. Under low-oxygen conditions, mercury can be converted to methylmercury, a highly toxic compound that accumulates in fish tissue and presents serious health risks to birds and people consuming fish.

The Guadalupe River Watershed Mercury TMDL has water quality objectives for fish tissue and hypolimnion water methylmercury concentrations. For more information on the Guadalupe River Mercury TMDL, please see the San Francisco Bay RWQCB's website: http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/guadaluperivermercurytmdl.shtml.

In summer 2018, the oxygenation systems operated nearly continuously throughout the stratification periods of the four (4) reservoirs (Almaden, Calero, Guadalupe, and Stevens Creek), with only brief interruptions due to mechanical issues. Although Stevens Creek Reservoir is located outside of the Guadalupe River Watershed, and therefore not subject to the Mercury TMDL, it is also listed as impaired for mercury due to fish tissue concentrations that exceed standards. Valley Water operates an oxygenation system at Stevens Creek Reservoir to reduce methylmercury production, improve downstream water quality, and serve as a positive control site for comparison to the other three reservoirs.

In spring 2019, the oxygenation systems were not deployed until May 2019 due to a combination of factors. Maintenance performed in the winter was more extensive than anticipated and several systems were not yet operational. In addition, electrical connections needed to be addressed at Calero Reservoir to continue safe operation. Fortunately, late season rains and cool weather delayed the onset of strong stratification in the reservoirs. All systems were turned on in early June.

Continuous specialized maintenance and troubleshooting are needed to keep the systems operational. In the winter, reservoirs are well-mixed and naturally oxygenated throughout, eliminating the need for oxygenation system operation. Increased maintenance frequency in 2019 should yield further reliability improvements.

Operation of oxygenation systems in 2018:

- Almaden Reservoir – 26 weeks
- Calero Reservoir – 20 weeks
- Guadalupe Reservoir – 26 weeks
- Stevens Creek Reservoir – 29 weeks

Although not a KPI, four (4) solar-powered circulators are operated in Lake Almaden to improve oxygen concentration at the lake bottom. They have resulted in modest reductions in methylmercury in the lake.

Progress Report on Methylmercury Control

Valley Water monitored water quality twice per month in each reservoir during oxygenation system operation, and once per month during the remainder of the year. Valley Water collected fish tissue samples in summer 2018 and spring 2019. Valley Water is required to submit a progress report to the San Francisco Bay Regional Water Quality Control Board (RWQCB) on the effectiveness of the hypolimnetic oxygenation systems in December 2019.

The 2017 progress report and accompanying fish assemblage report can be found here: https://bit.ly/2m32p1J. The report was well-received by the San Francisco Bay RWQCB. The San Francisco Bay RWQCB approved Valley Water's suggested sampling changes, which is saving time and resources for the mercury sampling program.

Sampling a Storm for Mercury at Guadalupe River.

Progress on KPI #2: *(Completed in FY15)*

Valley Water drafted a Pollution Prevention Prioritization Plan (Plan) in January of 2015. This Plan is intended to prioritize 10 Santa Clara County water bodies that would benefit most from pollution prevention projects. Focusing on water bodies listed as impaired on the Environmental Protection Agency's Clean Water Act section 303(d) list, Valley Water revised the Plan in 2017. The updated Plan includes a revised ranking methodology and recommendations for pollution prevention activities. Because the 303(d) list is updated every two (2) years to include new data, emerging pollutants, and de-listings, the Plan is considered a "working document," and will be updated as regulatory priorities evolve. As a result, specific pollution prevention activities to be implemented as part of KPI #3 are not identified in the Plan but are identified as part of annual reporting. Specific pollution prevention projects will be focused on improving existing impairments in priority water bodies.

Progress on KPI #3:

In FY19, Valley Water implemented five (5) priority pollution and reduction activities in 27 waterbodies, including 14 creeks and the Guadalupe River. Valley Water continued implementing Pollution Prevention Activities #1, #3, and #4, entered into a new agreement for Pollution Prevention Activity #2, and initiated one (1) additional project. The table on the next page shows the Pollution Prevention activity and applicable waterbodies.

Priority Pollution Prevention and Reduction Activities

Pollution Prevention Activity	Waterbody
#1: Trash Accumulation Point Mapping and Removal	Guadalupe River
#2: Trash Reduction — Park Rangers and SIPD	Coyote Creek Guadalupe River
#3: Trash Accumulation Point Mapping and Removal	Coyote Creek
#4: Angler Survey	Almaden Lake Almaden Reservoir Anderson Reservoir Calero Reservoir Camden Ponds Chesbro Reservoir Guadalupe Reservoir Lexington Reservoir Ogier Ponds Stevens Creek Reservoir Uvas Reservoir Vasona Lake
#5: Homelessness Best Practices	Guadalupe River Los Gatos Creek Ross Creek Guadalupe Creek Coyote Creek Silver Creek Thompson Creek Lower Penitencia Creek San Tomas Aquino Creek Saratoga Creek Calabazas Creek Stevens Creek Permanente Creek Llagas Creek Uvas Creek
Total 5 Pollution Prevention Activities	**27 waterbodies**

Pollution Prevention Activity #1: Trash Accumulation Point Mapping and Removal (Guadalupe River)

Valley Water began implementing the Plan in December 2015. The first pollution reduction activity in the Plan was the mapping of trash accumulation locations in the Guadalupe River, from Highway 237 to Blossom Hill Road. The first Trash Accumulation Point Map was completed in FY16. Trash accumulation point mapping and removal is now part of a Memorandum of Agreement (MOA) with the City of San José. In November 2018, Valley Water removed 2.5 tons (25 cubic yards) of trash from Guadalupe River behind the Children's Discovery Museum under the MOA. City and Valley Water are mapping trash accumulation points in the spring for future cleanup. (https://www.valleywater.org/sites/default/files/B1_TrashRaftData_FiscalYear_Comparisons.pdf).

Pollution Prevention Activity #2: Trash Reduction (Guadalupe River and Coyote Creek)

To reduce trash accumulation, the project funded patrol and enforcement services from City of San José park rangers and California Department of Fish and Wildlife (CDFW) officers to prevent reestablishment of homeless encampments along the Coyote Creek and Guadalupe River.

The agreement with the CDFW for $70,000 was intended to assist in identifying debris sites, patrolling areas to prevent re-encampment and to conduct enforcement related to the Department's jurisdiction. The $175,000 cost share agreement with the City of San José funds park ranger services to prevent re-encampment and provide outreach to the homeless community.

These services also benefit and align with the encampment cleanups completed under the Project B4: Good Neighbor Program – Encampment Cleanup.

The initial agreements, which were scheduled to expire in June 2017, were extended to continue the project. However, due to staff shortages from both the CDFW and the San José Park rangers, few funds have been expended. The agreement with the park rangers was therefore not renewed. Valley Water actively participated in the Park Ranger Working Group led by the City of San José in Fall 2018. In Spring 2019, the Game Wardens began increasing patrol and enforcement along creeks in San José under Valley Water's agreement.

In May 2019, Valley Water signed an agreement with San José Police Department (SJPD) to fund a pilot program for San José Police to conduct patrols targeting criminal activities along local waterways. Valley Water is funding this agreement at $200,000 for eight (8) months.

Pollution Prevention Activity #3: Trash Accumulation Point Mapping and Removal (Coyote Creek)

Valley Water coordinated with the City of San José to develop a trash accumulation point map for Coyote Creek in summer 2017. In January 2019, Valley Water removed 0.9 tons (nine (9) cubic yards) of trash from Coyote Creek downstream of Charcot Avenue under a Memorandum of Agreement with the City of San José.

Pollution Prevention Activity #4: Angler Survey in mercury impaired water bodies

The purpose of this study is multifaceted and includes assessing fish consumption and human health risk in mercury-impaired reservoirs, assessing effectiveness of existing consumption advisories, informing future consumption advisories and directing public outreach actions. The final angler survey report is posted here: https://www valleywater.org/project-updates/b1-impaired-water-bodies-improvement. Valley Water presented on consumption advisories and the angler survey at the Sierra Fund Headwater Mercury Source Reduction technical advisory committee in May 2019.

Pollution Prevention Activity #5: Homelessness Best Practices

In August of 2018, Valley Water attended a training given by the Environmental Protection Unit of the Santa Clara County District Attorney's Office on identification and enforcement of environmental violations along waterways related to homeless encampments. In October 2018, Valley Water presented and participated on a panel at the California Stormwater Quality Association (CASQA) conference in Riverside discussing environmental impacts from homeless encampments in riparian zones and existing programs that Valley Water facilitates concerning homelessness. Valley Water also presented at the Bay Area Stormwater Management Agencies Association meeting in November 2018 and at the CASQA quarterly meeting in May 2019 on the impacts of homeless encampments and opportunities for stormwater agencies.

Valley Water continues to track and research best practices, including providing trash bags to homeless individuals to bag their trash, which is being implemented as a pilot. In FY19, Valley Water began collaborating with the City of San José in the effort to provide homeless residents with trash bags to contain their waste, primarily along Coyote Creek and Guadalupe River. The city distributes transparent blue trash bags to its creek cleanup partners, Downtown Streets Team and homeless service providers to encourage homeless individuals to bag their trash.

Homeless individuals use the bags and leave them along trails and sidewalks. The filled bags are then picked up by various city departments, creek partners and Downtown Streets Team.

Valley Water began assisting the city with this effort, including purchasing bags and bag removal from locations to be determined using the online customer service center Access Valley Water (AVW) to notify. Bag pick up will be tracked to help measure the success of the program. Collaboration with the city on this existing effort will enhance its effectiveness and help address trash from encampments.

Financial Information

In FY19, 76% of the annual project budget was expended.

The underspending was due to several factors, including lower laboratory services required due to completion of a special study for mercury and gap in starting the next study. Contracting with vendors to maintain the oxygenation systems continued to be a challenge, resulting in delayed deployment of the oxygenation systems and under expenditure. Furthermore, since CDFW had not fully exhausted the funding in the existing agreement, no new money was required to fund their services which were not resumed until spring 2019.

Financial Summary ($ Thousands)
B1. Impaired Water Bodies Improvement

Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$1,714	$1,000	$296	$1,297	76%	$27,427	28%

Opportunities and Challenges

Technical Studies on Methylmercury Control

Valley Water conducts technical studies to analyze the effectiveness of oxygenation to control methylmercury production as well as to better understand methylmercury processes in the reservoirs.

Valley Water co-authored a scientific paper investigating methods to control the release of toxic mercury from submerged sediments. Results indicated that oxygen and nitrate, but not aluminum, addition may reduce methylmercury release from Guadalupe Reservoir and Almaden Lake sediments: https://www.ncbi.nlm.nih.gov/pubmed/30125853.

In May 2019, Valley Water entered into a partnership agreement with the United States Geological Survey (USGS) to study water column mercury methylation in the four reservoirs (Almaden, Calero, Guadalupe and Stevens Creek). Emerging research suggests that the water columns of reservoirs, in addition to the sediment-water interface, may be important locations of methylmercury production and bioaccumulation. The first sampling events took place in May 2019 prior to oxygenation system operation.

UC Merced received a research grant from the Department of Energy to study treatment methods that may be employed to reduce methylmercury production in Guadalupe Reservoir sediments. Valley Water supported this

effort by facilitating field data collection events with university researchers.

The findings of Valley Water's technical studies will inform the implementation plan of the upcoming Statewide Mercury Program for reservoirs currently under development by the State Water Resources Control Board (SWRCB). Valley Water actively participates in the statewide effort.

Valley Water presented results of its methylmercury control studies to the Association of California Water Agencies (ACWA) Regulatory Forum (October 2018) and the American Water Works Association California-Nevada Section Spring Conference (March 2019). Additionally, Valley Water presented at the Sierra Fund's Headwater Mercury Source Reduction Technical Advisory Committee at the State Capitol in May 2019 to discuss fish consumption advisory posting.

Operation of the oxygenation systems resulted in significant reduction in methylmercury in the hypolimnion (bottom of a reservoir), with an average decrease of up to 70% below historical summer concentrations. In most cases, the methylmercury TMDL for the hypolimnia of reservoirs was met, however, no change was measured in the epilimnion (upper layer). Only Guadalupe Reservoir showed a trend of decreasing fish mercury, but concentrations remain well above targets. In Calero Reservoir, oxygenation also improved source water quality, benefitting the Rinconada and Santa Teresa drinking water treatment plants.

Coordinated Mercury TMDL Monitoring Program and Partnerships

In addition to reservoir monitoring, the Guadalupe River Watershed Mercury TMDL requires coordinated monitoring of fish in creeks and mercury loads to the San Francisco Bay by mine site and reservoir owners. Valley Water coordinated with project partners (County of Santa Clara, Midpeninsula Regional Open Space District, and Guadalupe Rubbish Disposal Company) to plan the second 5-year phase of the Coordinated Monitoring Program for the Guadalupe River Watershed Mercury TMDL project. A 5-year monitoring report was submitted to the SFRWQCB in January 2017. The partners are primarily responsible for source control and implementing projects to remediate mercury contaminated sites upstream of the reservoirs in the old Almaden Mining district.

Valley Water led the development of a cost-share agreement to fund a consultant agreement for development and implementation of a plan to meet the mercury monitoring requirements. On January 23, 2018, the Valley Water Board approved the cost-share agreement and authorized the CEO to negotiate and execute the consultant agreement: https://scvwd.legistar.com/LegislationDetail.aspx?ID=3308899&GUID=72BD7D50-7327-4341-8EC9-3807308AB92E&Options=&Search=.

The consultants prepared a sampling plan that was reviewed by all partners and approved by the San Francisco Bay Regional Water Quality Control Board in October 2018. The sampling plan and approval letter can be found at https://www.valleywater.org/project-updates/b1-impaired-water-bodies-improvement. The consultants sampled two large February storms to estimate mercury loading this year. A progress report is due to the RWQCB in June 2019 and will be posted to the website.

Valley Water provided tours of the Calero Reservoir to groups of teachers to provide information on the mercury in reservoirs program.

Pollution Prevention Partnership Opportunities

Valley Water continues to explore partnerships with cities, non-profits and volunteer groups to implement

priority pollution prevention and reduction activities in 10 water bodies throughout the county. This includes:

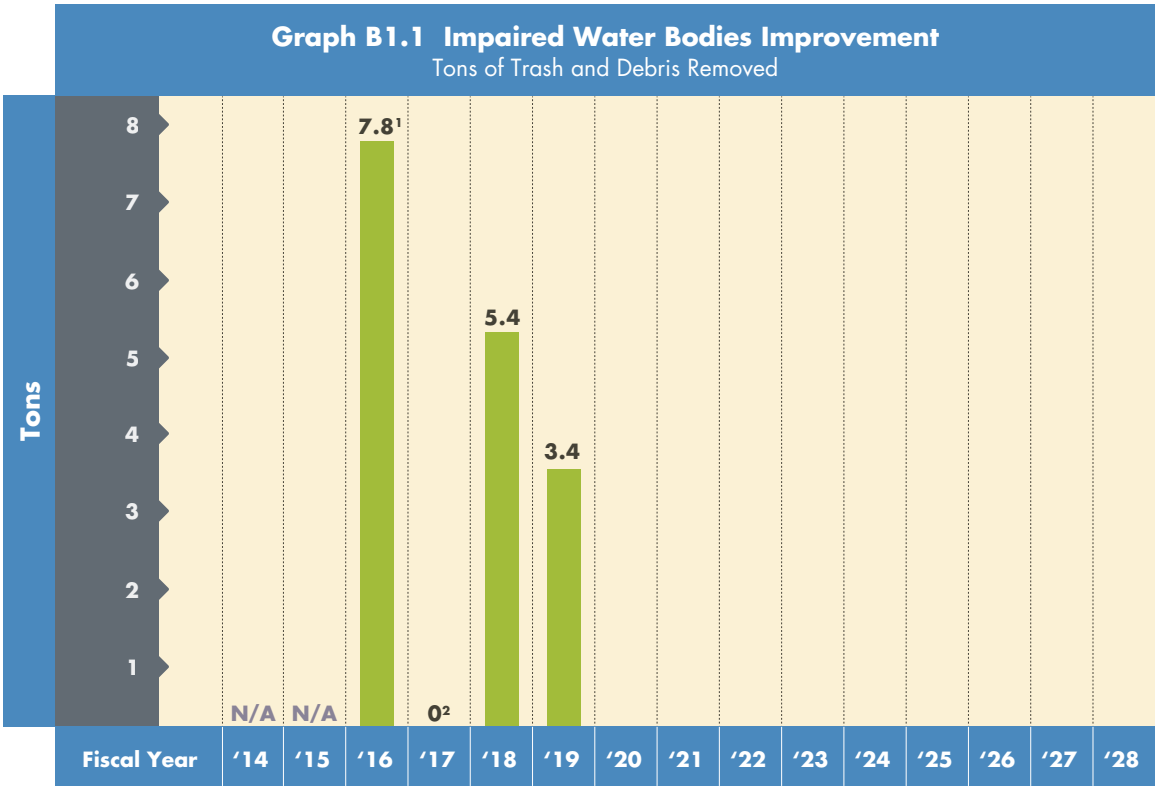
- Working with the City of San José on trash in Guadalupe River and Coyote Creek.
- Increased collaboration with the San Francisco Bay RWQCB and mercury researchers, as well as invitations to present mercury findings at various conferences.
- Partnership with USGS on mercury studies.
- Coordinated Monitoring Program for Guadalupe River mercury monitoring.

In addition, the project has coordinated with the Calero Dam Seismic Retrofit project to develop a contract for hydrodynamic modeling of Calero Reservoir.

Operational and Maintenance Challenges

Summer 2016 was the first year that oxygenation systems ran with consistency in all reservoirs. In FY16, shut down days ranged from five (5) at Calero Reservoir to 27 at Almaden Reservoir. Maintenance issues continued to affect the systems in FY18, but were addressed by specialized maintenance servicing, adding technical support staff, improved coordination with equipment service vendors, and improved operational knowledge. Calero Reservoir's oxygenation system was not operated until June during the 2017 season due to mechanical issues and contracting delays. The oxygenation system at Calero Reservoir was off-line from April to June 2018 due to damage to the oxygen diffuser lines. Additional buoys are being installed to discourage boaters from entering the area of the diffuser lines. Winter 2018-19 maintenance was performed and showed that some components of the oxygenation systems may not have received all required regular maintenance. New purchase orders have been put in place to address maintenance requirements.

Specialized equipment requires original vendors to perform much of the troubleshooting and maintenance. Valley Water continues to explore use of internal staff or issuing a long-term contract to ensure reliable ongoing maintenance of systems.



[1] This estimate may have slightly varied from past annual reports due to a refinement of the conversion from cubic yards to tons.

[2] Due to high flows during the winter of FY17, re-mapping was delayed and conducted in May and June 2017. The 0.2 tons of trash identified as part of this mapping effort was cleaned in FY18.

Project B2

Interagency Urban Runoff Program

This project supports Valley Water's continued participation in the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) and South County programs that help Valley Water reduce stormwater pollution and meet regulatory requirements to reduce contaminants in surface water.

Valley Water also participates in the regulatory development process related to stormwater by providing review, analysis and commentary on various basin plan amendments, Total Maximum Daily Loads (TMDLs) and water bodies listed as impaired or threatened under the federal Clean Water Act. Project B2 also allows Valley Water to maintain regional public education and outreach activities to help prevent urban runoff pollution at the source.

Benefits

- Uses partnerships with municipalities and local agencies to reduce contaminants and improve surface water quality in our streams, reservoirs, lakes and wetlands
- Maintains Valley Water compliance with the Regional Water Quality Control Board and National Pollutant Discharge Elimination System (NPDES) permits
- Allows continued participation in SCVURPPP and South County urban runoff programs
- Promotes stormwater pollution prevention through public outreach

Key Performance Indicators (15-year Program)

1. Install at least 2 and operate 4 trash capture devices at stormwater outfalls in Santa Clara County.
2. Maintain partnerships with cities and County to address surface water quality improvements.
3. Support 5 pollution prevention activities to improve surface water quality in Santa Clara County, either independently or collaboratively with South County organizations.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET

Trash boom cleaning at Lower Stevens Creek.

ON TARGET

Project B2 FY19 Highlights

- Operated four (4) trash capture devices (booms) in the county, which collected approximately 3.87 tons of trash.
- Maintained several partnerships with all cities and the county.
- Completed one (1) and in process for two (2) pollution prevention activities in South County.

Status for FY19: ON TARGET

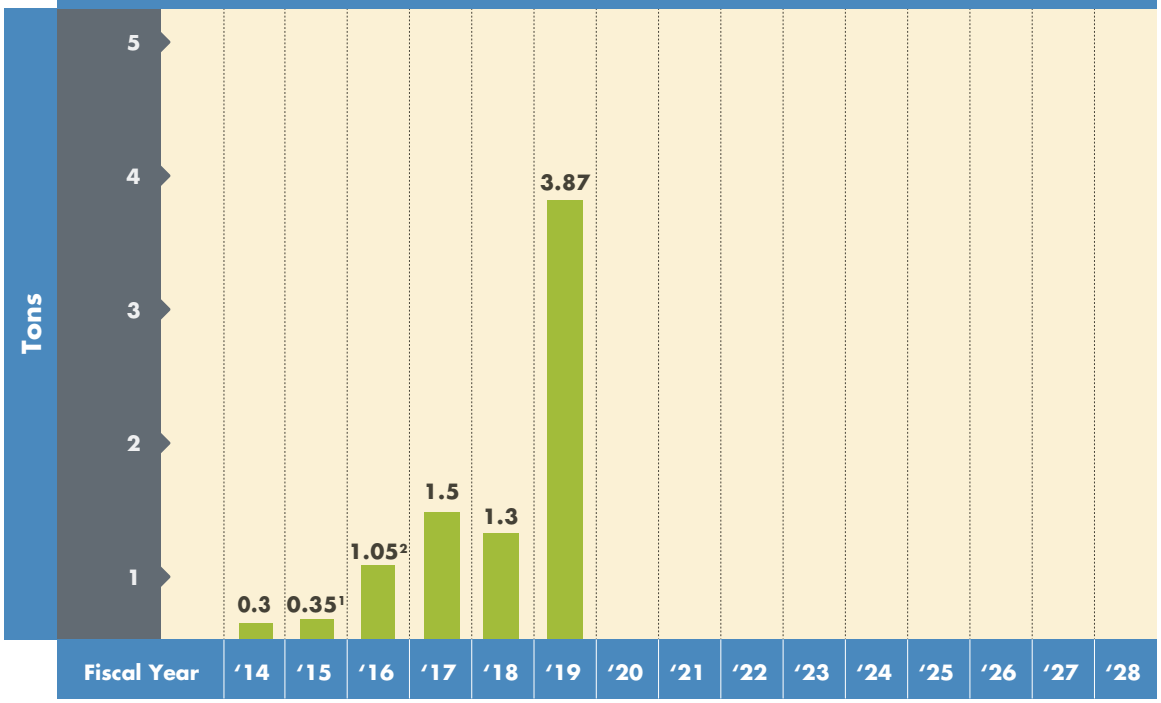
Progress on KPI #1: *(Installation of two (2) trash capture devices was completed in FY14)*

In FY19, a total of four (4) trash capture devices (booms) were operated in Santa Clara County. Approximately 38.72 cubic yards (3.87 tons) of trash were collected and removed (Graph B2.1). The four (4) booms were located at:

- Lower Silver Creek near King Rd. and Schulte Dr., San José
- Matadero Creek at West Bayshore Rd., Palo Alto
- Adobe Creek at East Bayshore Rd., Palo Alto
- Thompson Creek upstream of Tully Rd., San José

The Matadero and Adobe creek booms are managed by the City of Palo Alto under an agreement with Valley Water, which performed the environmental permitting. Per the agreement, the two (2) booms in Palo Alto are removed each year from December to April, while the booms in San José are typically left in the creeks all year. Valley Water inspects all booms regularly. The Lower Silver Creek boom was vandalized beyond repair in August and replaced in October 2018. In February 2019, the Lower Silver Creek boom detached due to high flows and was reattached in March 2019.

Graph B2.1 Interagency Urban Runoff Program
Tons of Trash and Debris Removed from Trash Booms (KPI #1)



[1] The amount of trash and debris removed in FY15 has been corrected. In previous annual reports, the amount was provided in cubic yards but was reported as tons on the graph.
[2] This estimate may have slightly varied from past annual reports due to a refinement of the conversion from cubic yards to tons.
[3] The FY19 increase is likely due to more frequent boom cleaning, necessitated by more frequent rainfall.

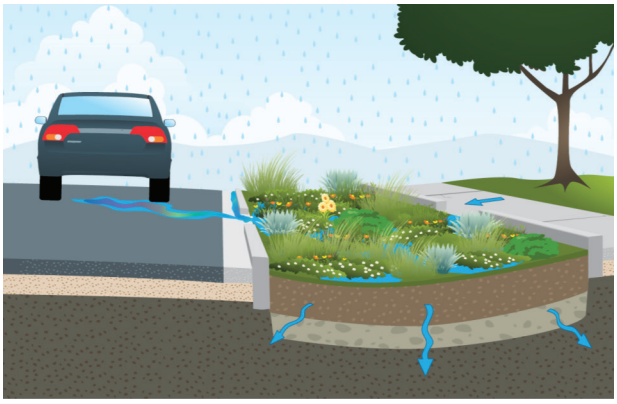
In addition to removing trash, Valley Water participates in implementing the Receiving Water Trash Monitoring Program Plan for the San Francisco Bay Region (http://basmaa.org/Announcements/receiving-water-trash-monitoring-program-plan-for-the-san-francisco-bay-region) by characterizing trash found captured by the Lower Silver Creek Boom. Of the trash captured in November 2018 and May 2019, Styrofoam, food wrappers and plastic bottles were the most prevalent items.

In addition to booms, the stormwater permit requires the cleanup of designated "hot spots." Under Project B2, 11 hot spots were cleaned this year removing 44 cubic yards (4.4 tons) of trash. Two of the 11 hotspots were cleaned twice during FY19. Other hot spots were cleaned through the Project B4: Good Neighbor Program – Encampment Cleanup and Project B7: Support Volunteer Cleanup Efforts and Education programs. Several of the hot spots are also monitored according to the Receiving Water Trash Monitoring Program Plan.

Progress on KPI #2:

Maintained several partnerships with cities and Santa Clara County.

- In July 2015, Valley Water renewed its annual agreement for SCVURPPP. SCVURPPP is a partnership with Santa Clara County and 13 cities in the county to reduce pollution in urban runoff to the "maximum extent practicable" to improve the water quality of South San Francisco Bay and the streams of Santa Clara County. Valley Water's contribution to the SCVURPPP budget is 30%, and Valley Water chairs the management committee. More information can be found at http://scvurppp.org/. Work conducted in FY19 includes continued implementation of the requirements of the San Francisco Bay Municipal Regional Stormwater Permit (MRP 2.0), which became effective in January 2016 (see https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/Municipal/R2_2015_0049_amended.pdf). A SCVURPPP 2018 Program Summary can be found here: https://scvurppp.org/wp-content/uploads/2019/04/SCVURPPP-Program-Summary-2018_web.pdf. Annual reports are submitted to the San Francisco Bay Regional Water Quality Control Board with accomplishments on the required activities (https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/MRP/2018_AR/Santa_Clara/SCVWD%20_2017-18_MRP_AR.pdf).
- In December 2016, Valley Water on behalf of SCVURPPP was awarded a California Proposition 1 grant by the State Water Resources Control Board to develop a Storm Water Resource Plan (SWRP) for the Santa Clara Basin that will support the development and implementation of MRP-required Green Infrastructure Plans and produce a list of prioritized runoff capture and use projects eligible for future state implementation grant funds. Matching funds for this grant are provided by the annually approved SCVURPPP budget (as stated above, Valley Water funds 30% of SCVURPPP). In addition to managing the grant, Valley Water participates in the Technical Advisory Committee. The work under the grant was completed on schedule per agreement with the State Board. The Stormwater Resource Plan is coordinated with Valley Water's One Water Plan and stakeholders from the One Water effort participated in its development. For the Final Stormwater Resource Plan, please see https://scvurppp.org/swrp/. The SWRP was submitted to the San Francisco Bay Area Integrated Regional Water Management Plan (IRWMP) Coordinating Committee and will be incorporated into



Typical Bioretention Design Green Infrastructure (Image Credit: SCVURPPP).

the IRWMP as an addendum.

- Since May 2019, Valley Water is representing SCVURPPP at the Bay Area Stormwater Management Agencies Association (BASMAA) Board of Directors. In addition, Valley Water chairs the BASMAA trash committee and has played a lead role in developing the Receiving Water Trash Monitoring Program Plan for the San Francisco Bay Region (http://basmaa.org/Announcements/receiving-water-trash-monitoring-program-plan-for-the-san-francisco-bay-region). Receiving water trash monitoring began during the 2017-18 wet season. More information on BASMAA can be found at http://basmaa.org/.
- Valley Water participates in the Santa Clara County Technical Advisory Committee (TAC) to the Recycling and Waste Reduction Commission (RWRC). The TAC works on various relevant issues, including waste and litter reduction, outreach, green business and reducing disposables. Under Project B3, Valley Water funds an agreement with the County for its Green Business Program, which is reviewed by the RWRC TAC. In addition, Valley Water actively participates in the Eco-Gardeners committee, jointly funded by the Recycling and Waste Reduction Committee and SCVURPPP, with a goal of promoting native, drought tolerant landscaping, reducing use of pesticides and encouraging composting.
- Valley Water actively participates and shares data, reports and findings with the South County stormwater group, comprised of Morgan Hill, Gilroy and the County of Santa Clara.

Progress on KPI #3:

In FY19, Pollution Prevention Activity #1 was completed, Pollution Prevention Activity #2 was still in process and Pollution Prevention Activity #3 was initiated for a total of three (3) pollution prevention activities in South County. The Pollution Prevention Prioritization Plan completed under Project B1 (KPI #2) is also being used to prioritize projects for Project B2 with a focus on South County.

- Pollution Prevention Activity #1: Worked with Gilroy, Morgan Hill, and the County to complete the South County Pajaro River Watershed Pathogen and Microbial Source Tracking Study (https://bit.ly/2lU4FYS). Valley Water finalized the report in FY17. This study resulted in further monitoring of pathogen sources by South County agencies with additional investment by Valley Water in FY18. This activity has resulted in information that other agencies are using to develop pollution prevention outreach. A summary of the study was developed: https://bit.ly/2kkyZvC.
- Pollution Prevention Activity #2: Valley Water performed data analysis for South County nutrient impairment and TMDL for the Pajaro River watershed to prioritize agricultural parcels based on predicted nitrate, precipitation, soil erosivity, slope and area. The analysis was presented to the South County stormwater group. Valley Water is currently developing next steps to reduce nutrient loading in the Uvas/Llagas Watershed.
- Pollution Prevention Activity #3: Valley Water is developing a Storm Water Resource Plan (SWRP) in collaboration with stormwater permittees in South County (Gilroy, Morgan Hill and County of Santa Clara) to identify and prioritize Green Stormwater Infrastructure (GSI) opportunities that could be eligible for funding. Similarly, to the SCVURPPP effort, this SWRP is a planning document that uses a map-based approach to identify and prioritize local and regional GSI projects that can be implemented to improve local surface water quality through enhanced stormwater management. GSI reduces the quantity and improves the quality of water flowing into our creeks, while also providing other possible benefits, including groundwater infiltration, flood attenuation, aesthetics, reduction in heat islands and other community benefits.

Financial Information

In FY19, 106% of the annual project budget was expended.

Financial Summary ($ Thousands) B2. Interagency Urban Runoff Program						
Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$721	$762	$0	$762	106%	$12,641	32%

Opportunities and Challenges

Trash capture

Opportunities exist for the use of booms at additional creek locations to help capture trash during Project B1 trash mapping and clean-up activities. Trash booms require environmental permitting and may not be appropriate for all creek locations. Valley Water has provided lessons learned information on booms to SCVURPPP and BASMAA partners.

Homelessness

Encampments in the creeks are increasing and contributing significant amounts of trash to urban creeks. Several of the Priority B projects are related to clean up of trash and encampments. Valley Water meets regularly internally as well as with the City of San José to coordinate resources and cleanup efforts.

Volunteer Creek Cleanup Partnership Program

The interest and enthusiasm for volunteer cleanup is very high. Some activities appear to overlap with activities covered in Projects B2, B3, B4, B6 and B7. To achieve cost-effectiveness and avoid duplication, additional coordination among these projects continued to optimize the use of the various funding sources. For additional information on the volunteer program, please see Project B7.

Project B3

Pollution Prevention Partnerships and Grants

This project provides pollution prevention grants to qualified local agencies, nonprofit groups, schools, etc., totaling an average of $500,000 per cycle. In addition, up to $200,000 per year goes toward partnerships with municipalities for specific programs to reduce contaminants in surface or groundwater, and reduce emerging contaminants.

Grants could support programs such as public education to prevent pharmaceuticals from entering waterways, technical assistance to help growers protect groundwater, and partnerships to reduce litter and graffiti.

S.F. Bay Wildlife Society cleanup event.

ON TARGET

Project B3 FY19 Highlights

- Established a partnership with the City of San José in the amount of $200,000 for the Tully Road Ballfied Creek Cleanup Project.
- FY19 was not a grant cycle year for Project B3.
- Continued administering nine (9) open grants and partnerships.

Benefits

- Helps prevent contaminants such as pharmaceuticals, household hazardous waste and trash from entering our waterways
- Helps meet regulatory requirements as listed under the impaired water bodies listing of the federal Clean Water Act
- Reduces contaminant source loads in groundwater and surface water, and protects local watersheds
- Provides public education to reduce contaminants in our waterways
- Leverages community resources for efficient use of funds

Key Performance Indicator (15-year Program)

1. Provide 7 grant cycles and 5 partnerships that follow pre-established competitive criteria related to preventing or removing pollution.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET

Status for FY19: ON TARGET

Progress on KPI #1:

- FY19 was not a grant cycle year for Project B3.
- During FY19, a B3 Pollution Prevention Partnership was established with the City of San José in the amount of $200,000 for the Tully Road Ballfield Creek Cleanup Project.
- From FY14-18, 15 grant projects and four (4) partnerships were awarded. Six (6) have been completed and closed.
- See Appendix C for a cumulative list of grants and partnerships awarded to date.

Financial Information

FY19, 87% of the annual project budget was expended.

The under-expenditure is because funds used for partnerships were less than anticipated.

Financial Summary ($ Thousands)
B3. Pollution Prevention Partnerships and Grants

Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$1,147	$321	$681	$1,002	87%	$7,595	42%

Opportunities and Challenges

Staffing and program improvements

In FY19, Valley Water hired a Senior Management Analyst to manage the day-to-day operations of the program, including administration of the most current grants cycle, implementation of the new grants management system, and ensuring grantee reports, invoices and amendment requests are processed accordingly.

Grant administration staff continued to work with planning staff to streamline and expedite the review and execution of grant agreements, especially for grant projects that require CEQA compliance. Valley Water developed more concise and uniform application, invoicing and reporting documents to provide greater uniformity across the various grant priority areas.

Grants Management System

In May 2018, Valley Water engaged Fluxx Labs, Inc. to build a new grants management system that will allow applicants to apply for grants, as well as allow grantees to provide project invoices and reports. The new system is scheduled to launch in FY20 and a series of training sessions will accompany the system launch. Valley Water will solicit feedback from current grantees on the new system through post-training surveys and follow up with quarterly surveys throughout the year. The results of the surveys will be reported in FY20.

Project B4

Good Neighbor Program: Encampment Cleanup

This project supports Valley Water's ongoing coordination with local cities and agencies to clean up large creekside encampments that contaminate waterways and damage Valley Water facilities. This cooperative effort includes local police departments, social services, and nonprofit advocacy groups that help provide alternatives to homelessness.

Guadalupe Creek site before cleanup.

ON TARGET

Project B4 FY19 Highlights

- Cleaned 454 encampment sites and removed more than 820 tons of trash and debris from encampments.
- Participated in the Joint Trash Team along with the City of San José and other partner agencies on a monthly basis.

Benefits

- Reduces trash and other pollutant loads in surface water, including streams, reservoirs and wetlands
- Improves the aesthetics of creeks in neighborhoods and parks
- Coordinates efforts among multiple agencies to create lasting solutions

Key Performance Indicator (15-year Program)

1. Perform 52 annual cleanups for the duration of the Safe, Clean Water Program to reduce the amount of trash and pollutants entering the streams.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET

Status for FY19: ON TARGET

Progress on KPI #1:

- Exceeded the Key Performance Indicator (KPI) of 52 annual cleanups by cleaning 454 encampment sites in FY19 (Graph B4.1). Removed more than 820 tons of trash and debris from encampments (Graph B4.2).

While Valley Water provides encampment cleanup support on Valley Water property in cities throughout the county, the majority of these cleanups were

performed in coordination with the City of San José as part of an ongoing agreement to complete encampment removal activities along the creeks. In addition, Valley Water participated in the Joint Trash Team along with the City of San José and other partner agencies on a monthly basis to plan and schedule services that are required for cleanup events, such as social services, law enforcement and volunteer support.

Financial Information

In FY19, 104% of the annual project budget was expended.

The budget reflects the Board's August 28, 2018, direction to limit the number of cleanups each fiscal year based upon the funding available, which would include 52 cleanups funded through Fund 26 capital and operating reserves and funding from the Board's prior commitment to supplement the effort with 90% of the net rental income from properties purchased through Watersheds Fund 12 (Fund 12 rental properties), and monitor the approach for one year. See the Opportunities and Challenges section for additional information regarding the funding for this project.

Financial Summary ($ Thousands)
B4. Good Neighbor Program: Encampment Cleanup

Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$927	$969	$0	$969	104%	$15,104	44%

Opportunities and Challenges

Volunteer Creek Cleanup Partnership Program

The interest and enthusiasm for volunteer cleanup is high. Some activities appear to overlap with activities covered in Projects B2, B3, B4, B6, and B7. To achieve cost-effectiveness and avoid duplication, additional coordination among these projects continued to optimize the use of the various funding sources. For additional information on the volunteer program, please see Project B7.

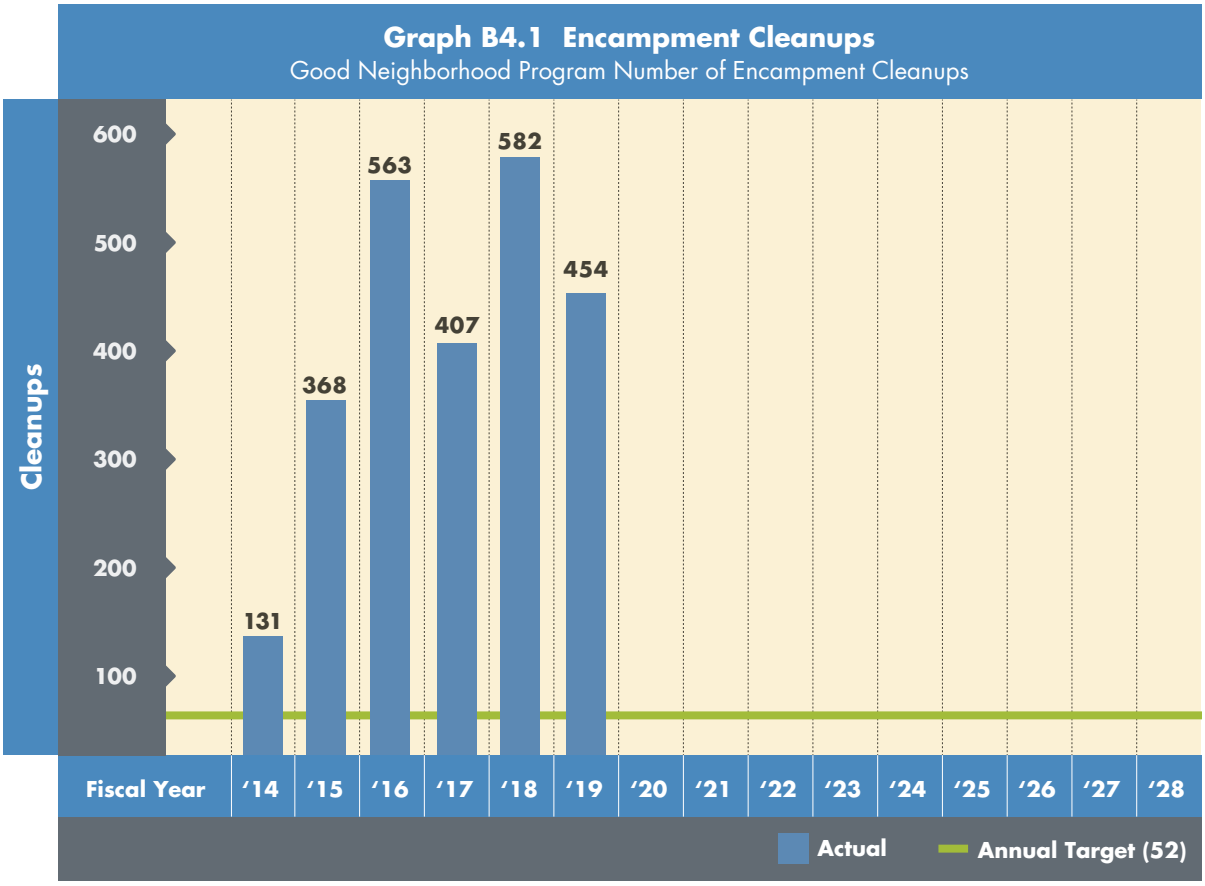
Homelessness in Santa Clara County

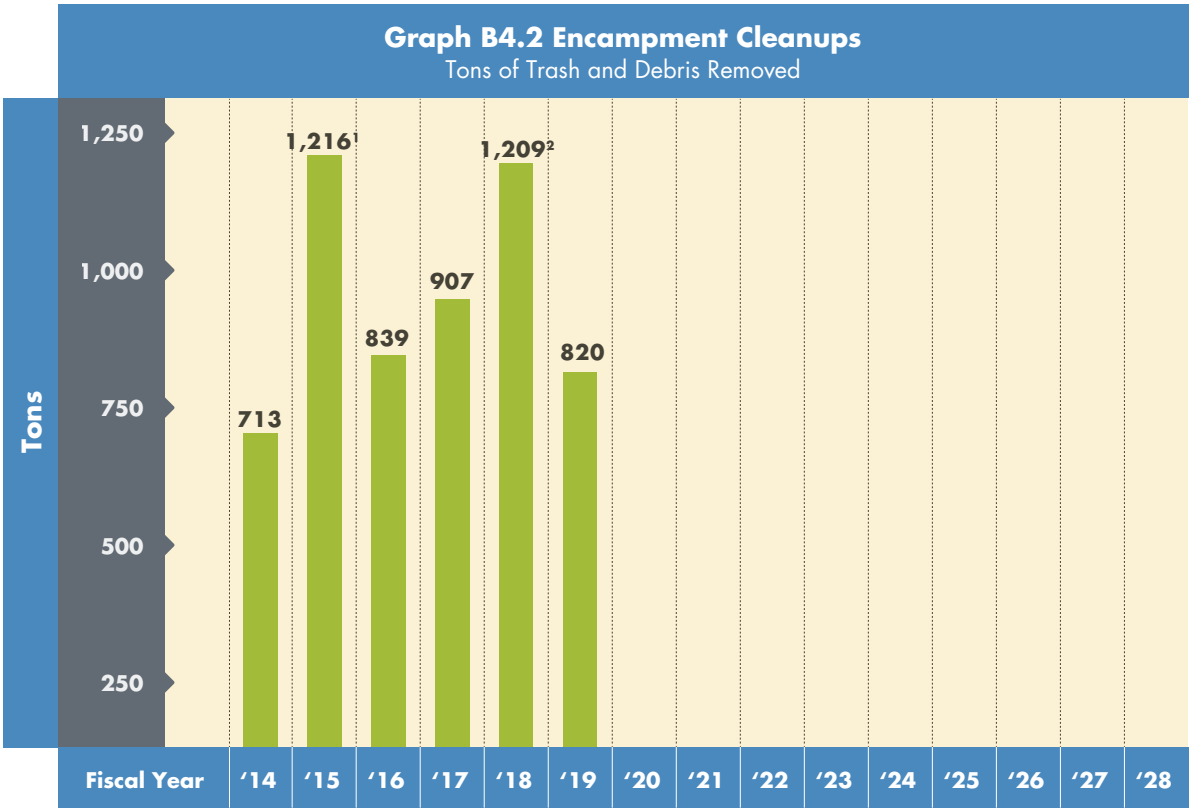
Along with a number of cities and countywide agencies, the Valley Water Board has endorsed the Community Plan to End Homelessness in Santa Clara County and Valley Water remains an active partner in implementing the plan by granting funding to the Downtown Streets Team through Project B3.

Funding

There continues to be an increasing demand for Valley Water resources to address encampment cleanups from cities and the community. The current level of budget is not adequate to accomplish the growing community demand.

In 2016, to address this high level of demand and the overall issue of homelessness in the county, the Board formed a Homeless Encampment Ad Hoc Committee. The committee continues to explore alternative funding sources and methods to meet the homeless encampment cleanup demand. On August 28, 2018, the Board approved the committee's recommendation to utilize a 90% of each FY's net rental income from properties purchased through Watersheds (Fund 12) to fund the homeless encampment cleanup project, and supplement it with $175,000 from Safe, Clean Water Program Fund 26 reserves through FY28. The Board also directed staff to match the level of service with the funding provided in FY19, an approach the Board will evaluate in the first quarter of FY20, when staff will provide an assessment on the effectiveness of the program and recommendations on future funding sources and level of services.





[1]In FY15, the Encampment Cleanup totals spiked as a result of trash and debris removed from combined cleanups in Coyote Creek in December 2014.

[2] In FY18, the Encampment Cleanup totals spiked due to an increase in community demand.

Project B5

Hazardous Materials Management and Response

This project allows Valley Water to continue providing a local, toll free number to report hazardous materials spills 24 hours a day, 7 days a week. Emergency staff responds within 2 hours of the initial report, with spill cleanup in Valley Water rights-of-way performed in a timely manner. Appropriate agencies are alerted when spills are outside Valley Water jurisdiction.

Calero Creek diesel cleanup.

ON TARGET

Project B5 FY19 Highlights

- Met 100% of the required two (2) hour or less response time for urgent calls, with an average response time of 72 minutes countywide.
- Received 84 incident calls countywide, of which 47 received an on-site response; nine (9) were classified as urgent.

Benefits

- Prevents and reduces contaminants in surface and groundwater
- Provides a quick, systematic emergency response that reduces negative impacts of hazardous materials spills

Key Performance Indicator (15-year Program)

1. Respond to 100% of hazardous materials reports requiring urgent on-site inspection in 2 hours or less.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET

Status for FY19: ON TARGET

Progress on KPI #1:

In FY19, Valley Water received 84 incident calls countywide, of which 47 received an on-site response; nine (9) were classified as urgent. The remaining 37 calls did not receive on-site responses because they were outside of Valley Water's jurisdiction, were reporting an event that occurred in the past and was already mitigated, or were addressed by another Valley Water team. Valley Water met 100% of its required two (2) hour or less response time for urgent calls, with an average response time of 72 minutes countywide.

Financial Information

In FY19, 85% of the annual project budget was expended.

Expenditures under this project can fluctuate widely based on the following:

1. The number of calls received on the Pollution Prevention hotline;
2. The number of calls requiring a field response;
3. The varying amount of time required to resolve/mitigate once in the field; and
4. The unspecified amount of waste to be disposed under the Emergency Response Program.

Financial Summary ($ Thousands)
B5. Hazardous Materials Management and Response

Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$31	$26	$0	$26	85%	$618	25%

Opportunities and Challenges

Multiple incidences

Occasionally, multiple incidents occur on the same day and the current Emergency Response Program may potentially have trouble meeting the two (2) hour response goal. However, this rarely occurs and has not prevented Valley Water from meeting the KPI.

Response times

Other challenges to meeting timeliness performance standards include accessing remote locations or encountering traffic when traveling to various locations in the county. It is also critical that Valley Water's Watershed Emergency Response Program maintain good working relationships with other response agencies and be trained and equipped to continue to respond effectively to a wide array of pollutants and hazardous substances.

Princeville Drain (Gilroy) received contaminated discharge from nearby source.

Table B5

Fiscal Year	Total Reports	Total Responses*	On-site Responses Classified as "Urgent"	Countywide Average Response Time
2018–2019	84	47	9	72 minutes

*The remaining 37 calls did not receive on-site responses because they were outside of Valley Water's jurisdiction, were reporting an event that occurred in the past and already mitigated, or were addressed by another Valley Water team.

Graffiti located on the energy dissipating drop structure in Lower Silver Creek at Tuers Rd. in San José.

ON TARGET

Project B6 FY19 Highlights

- Conducted four (4) litter cleanup events, which removed 75 tons of debris from 407 sites countywide.
- Conducted four (4) graffiti cleanup events, which removed 96,772 square feet of graffiti at 1,841 sites throughout the county.
- Logged 293 complaints regarding illegal dumping and trash and 55 complaints regarding graffiti.

Project B6

Good Neighbor Program: Remove Graffiti and Litter

This project allows Valley Water to continue responding to complaints about illegal dumping, trash and graffiti on Valley Water property and rights-of-way. Cleanup efforts include graffiti removal from headwalls, concrete embankments, signs, structures and other Valley Water assets, as well as maintaining, repairing and installing fences and gates so that Valley Water structures and facilities remain safe and clean. The project also includes quarterly cleanups of problem sites to help reduce waterway pollution and keep creeks and riparian areas free of debris.

Benefits

- Reduces trash and contaminants in local waterways
- Improves the appearance of waterways in neighborhoods and parks by removing trash, graffiti and litter as well as illegally dumped items such as cars, shopping carts, appliances, etc.
- Reduces illegal dumping into or near waterways by repairing and installing fencing on Valley Water property
- Provides coordinated response to community complaints about trash and graffiti in neighborhoods

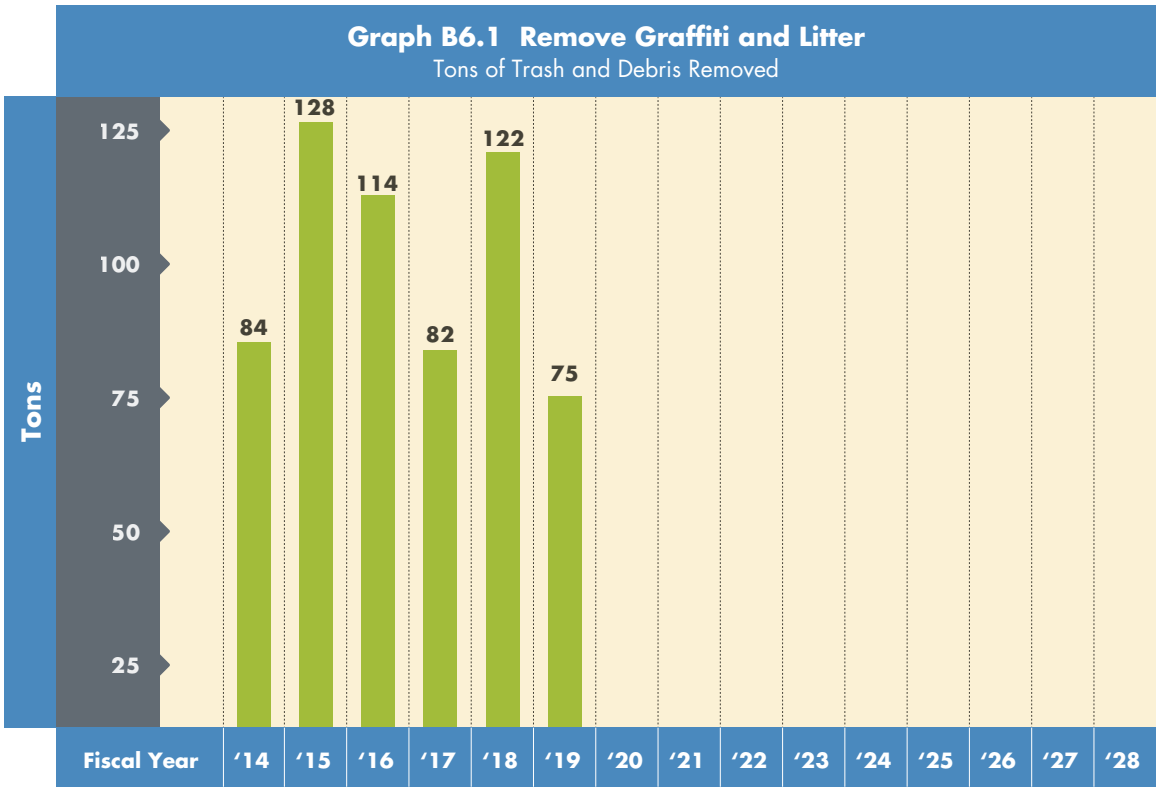
Key Performance Indicators (15-year Program)

1. Conduct 60 cleanup events (4 per year).
2. Respond to requests on litter or graffiti cleanup within 5 working days.

Geographic Area of Benefit Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET



Status for FY19: ON TARGET

Progress on KPI #1:

- Conducted four (4) litter cleanup events (1 per quarter), which consisted of removing trash and debris from sites throughout the county that have been identified as trash hot spots where Valley Water has fee title. In total, 75 tons (1,045 cubic yards) of debris was removed from 407 sites countywide (Graph B6.1).
- Conducted four (4) graffiti cleanup events at multiple sites throughout the county (1 per quarter). The quarterly graffiti cleanup events consist of removing graffiti from identified hot spots and from sites based on inspection or citizen complaint. In FY19, a total of 96,772 square feet of graffiti was removed at 1,841 sites throughout the county.

Progress on KPI #2:

- Logged 293 complaints regarding illegal dumping and trash and 55 complaints regarding graffiti into the online AVW. All AVW complaints were responded to within five (5) days or less (1.3 days on average) regarding scheduling the planned activity. Each complaint must be assessed to determine whether the reported location is on Valley Water property. For graffiti complaints on Valley Water property, work was completed on average within 24 hours of being reported to the outside contractor.

Financial Information

In FY19, 124% of the annual project budget was expended.

Financial Summary ($ Thousands) B6. Good Neighbor Program: Remove Graffiti and Litter						
Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$540	$519	$151	$669	124%	$10,038	31%

Opportunities and Challenges

Volunteer Creek Cleanup Partnership Program

The interest and enthusiasm for volunteer cleanup is very high. Some activities appear to overlap with activities covered in Projects B2, B3, B4, B6, and B7. To achieve cost-effectiveness and avoid duplication, additional coordination among these projects continued to optimize the use of the various funding sources. For additional information on the volunteer program, please see Project B7.

Contractor services

The approach of utilizing the services of a contractor to remove graffiti has proven to be successful for Valley Water. In FY19, the contractor conducted monthly inspections of five (5) specific geographic locations with subsequent removal of any graffiti found. Utilizing a computer application for smart phones, the contractor also responded to 1,841 sites resulting in removal of 96,772 square feet of graffiti. On average work was completed in less than 24 hours of being reported. Because of the success of this program, graffiti removal will continue to be addressed by a contractor in FY20.

Project B7

Support Volunteer Cleanup Efforts and Education

This project provides grants and partnerships for cleanup, education, outreach and watershed stewardship activities. Funding also allows Valley Water to continue supporting volunteer cleanup activities such as National River Cleanup Day, California Coastal Cleanup Day, the Great American Pick Up, and Adopt-A-Creek, as well as Creek Connections Action Group and creekwise education.

Coastal Cleanup Day site.

ON TARGET

Project B7 FY19 Highlights

- Awarded funding for three (3) grant projects.
- Nine (9) agreements were executed for projects awarded in FY18.
- Continued to fund four (4) of countywide volunteer cleanup activities.

Benefits

- Reduces contaminants entering our waterways and groundwater
- Engages community, and supports watershed stewardship
- Leverages volunteer community resources for efficient use of funds

Key Performance Indicators (15-year Program)

1. Provide 7 grant cycles and 3 partnerships that follow pre-established competitive criteria related to cleanups, education and outreach, and stewardship activities.
2. Fund Valley Water support of annual National River Cleanup Day, California Coastal Cleanup Day, the Great American Pick Up; and fund the Adopt-A-Creek Program.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET

Status for FY19: ON TARGET

Progress on KPI #1:

- On April 23, 2019, the Board awarded a total of $96,112 for three (3) projects. Of the five (5) applications received during the November 13, 2018 to February 15, 2019 application period, the thee (3) projects recommended and awarded funding were:
  - » Gilroy Compassion Center – South County Creeks Team Project ($30,000);

  - » Grassroots Ecology – Young Watershed Stewards Project ($44,301);
  - » The Tech Museum of Innovation – Down the Drain Project ($21,811).
- From the FY18 grant cycle, the nine (9) grant projects and one (1) partnership awarded are currently in progress.
- From the FY14 grant cycle, all seven (7) grant projects awarded have been completed and closed.
- See Appendix C for a cumulative list of grants and partnerships awarded to date.

Progress on KPI #2:

Continued funding of countywide volunteer cleanup activities (Graph B7.2):

- National River Cleanup Day (May 18, 2019): 1,060 volunteers cleaned approximately 62.3 miles of creeks and shoreline removing approximately 46,580 pounds (approximately 21 tons) of trash including 2,556 pounds (approximately 1.3 ton) of recyclables. A user-friendly online interactive map that was used in previous years with cleanup site information was utilized again this year for the cleanup event. This map continues to simplify volunteer registration and has shown to improve volunteer recruitment. The map allowed volunteers to easily access and view cleanup site locations from a computer or a mobile device. This year's volunteer numbers were affected due to the rainstorm that occurred before, during and after the cleanup, as well as increased homeless encampments that sprung up before the event.
- Coastal Cleanup Day (September 15, 2018): 1,931 volunteers removed more than 56,808 pounds (approximately 28 tons) of trash which includes 8,542 pounds (approximately four (4) tons) of recyclables along 75.25 miles of creeks in Santa Clara Valley. A total of two (2) cleanup sites were merged due to homeless encampments.
- Great American Litter Pickup (April 27, 2019): Valley Water supported this annual event which focuses on picking up litter from city streets, parks and public areas which helps prevent the trash from ending up in local creeks. Valley Water promoted the event via social media outlets (Facebook, Twitter, etc.).
- Adopt-A-Creek (year-round): This year, the program went through a thorough permit renewal assessment process. It was determined that various partners had moved out of the area and/or were no longer interested in the Adopt-A-Creek Program. Permits are currently being renewed and we are currently at 47 active adopted sites with groups committing to host a minimum of two (2) cleanup events per year. The program continues to utilize the online customer service center, AVW, to help partners report cleanup numbers and request trash pickups.

Financial Information

In FY19, 90% of the annual project budget was expended.

The under-expenditure was due to $120,000 budgeted for grant awards in FY19, while $96,000 was awarded for three (3) projects.

Financial Summary ($ Thousands) B7. Support Volunteer Cleanup Efforts and Education						
Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$455	$128	$282	$410	90%	$2,430	55%

Opportunities and Challenges

Staffing and program improvements

In September of FY19, Valley Water hired a Senior Management Analyst to manage the day-to-day operations of the program, including administration of the most current grants cycle, implementation of the new grants management system, and ensuring grantee reports, invoices and amendment requests are processed accordingly.

Valley Water continues to work with planning staff to streamline and expedite the review and execution of grant agreements, especially for grant projects that require CEQA compliance. Valley Water developed more concise and uniform application, invoicing and reporting documents to provide greater uniformity across the various grant priority areas.

Volunteer Creek Cleanup Partnership Program

Valley Water continues to attend monthly Creek Partners meetings with the City of San José for better coordination on cleanup efforts and for ongoing communication with various community organizations.

Internally, Valley Water continues with quarterly meetings to improve coordination among staff working on various pollution prevention priority projects to achieve cost-effectiveness and avoid duplication. Furthermore, Project B1 Impaired Water Bodies Improvement, continues to fund part-time assistance in support of Project B7, the Adopt-A-Creek program, which greatly benefits the interagency urban runoff program.

Adopt-A-Creek (AAC) Program

In Santa Clara County, trash in creeks and waterways continues to significantly impact stream water quality and flood risks. To address this, in 1994 Valley Water created the Adopt-A-Creek (AAC) program which has experienced successful volunteer participation since it began. Recently the program has gone through a comprehensive permit renewal assessment and is currently at 47 adopted sites in FY19 and growing.

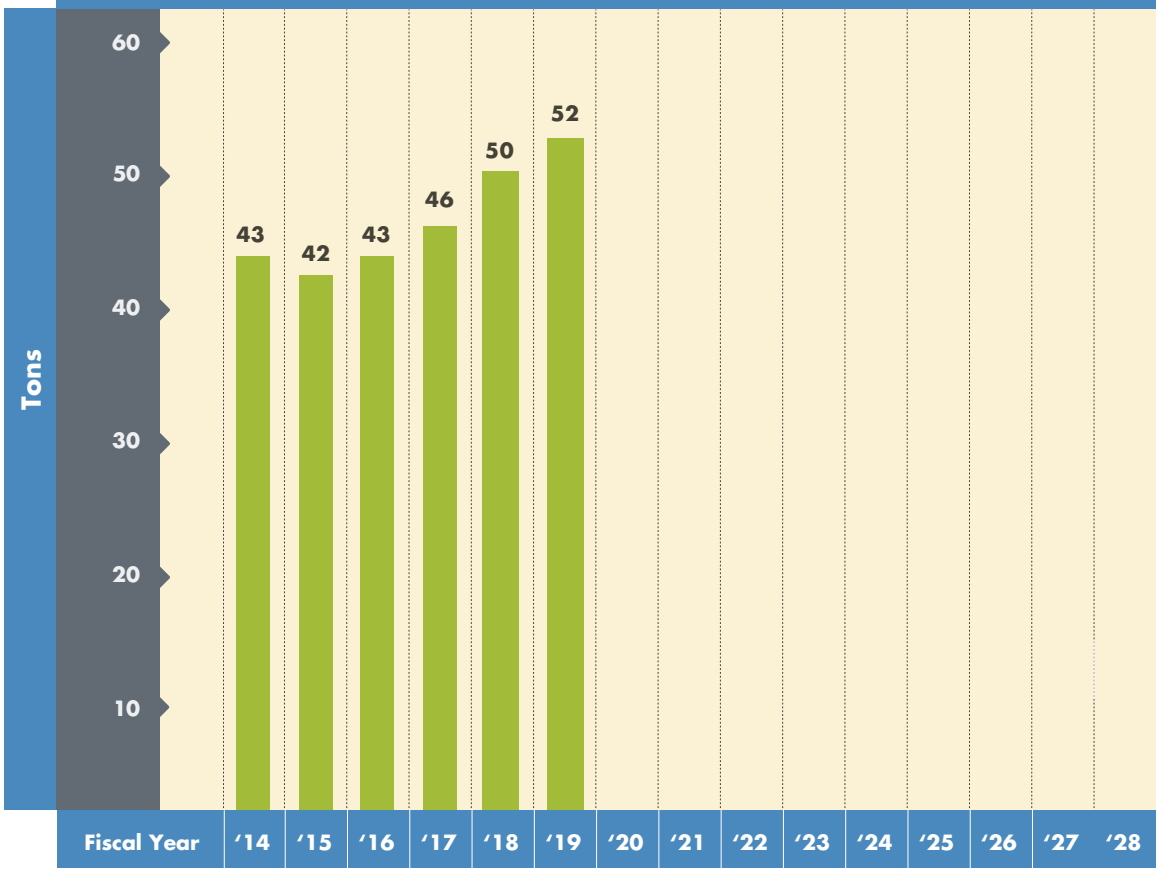
Volunteer activities, like the AAC program, engage and actively involve residents in helping to keep trash out of our rivers, streams, and creeks. Along with the other cleanup events, these programs are successful because of the thousands of volunteers that participate.

Valley Water made it easier for community to volunteer in FY16 by implementing administrative improvements that allowed volunteers to submit applications online, streamlined the renewal process, and increased communication with volunteers by adopting various social media tactics. In FY17, Valley Water launched the online and mobile data

reporting via the online customer service center, AVW, to report the amount of trash collected. In FY18, Valley Water looked at improving internal processing for AAC applications using Geographic Information Systems (GIS). The GIS Unit created a map that makes it easier for program staff to identify sections of creek that are owned by Valley Water and adoptable.

As an opportunity for continued improvement of the AAC program, and to further connect with volunteers, each winter Valley Water holds a volunteer recognition event for AAC partners and National River Cleanup Day and Coastal Cleanup Day site coordinators. The event continues to serve as an opportunity to recognize volunteers and their contributions in maintaining clean and healthy creeks and to help recruit new AAC partners. The next volunteer recognition event is planned for Winter 2019.

Graph B7.2 Support Volunteer Cleanup Efforts and Education
Tons of Trash and Debris Removed



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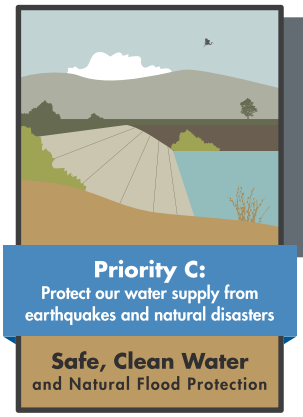


Priority C

Protect our Water Supply from Earthquakes and Natural Disasters

Projects under Priority C include retrofitting to protect our water supply infrastructure from the impacts of natural disasters, like earthquakes. It also includes emergency flood response enhancements to improve communication between responders and help reduce damages from floods.

Project C1
Anderson Dam Seismic Retrofit

Project C2
Emergency Response Upgrades

Anderson Dam.

ON TARGET

Project C1 FY19 Highlights

- Completed the first fund transfer in FY16 and the final transfer is scheduled for FY28.

Project C1

Anderson Dam Seismic Retrofit

Anderson Reservoir is currently limited in its capacity due to seismic concerns, costing Santa Clara County valuable drinking water resources. This project covers earthquake retrofitting of Anderson Dam to improve reliability and safety, and returns the reservoir to its original storage capacity.

Anderson Dam creates the county's largest surface water reservoir—Anderson Reservoir— which stores local rainfall runoff and imported water from the Central Valley Project. The reservoir is an important water source for treatment plants and the recharge of the groundwater basin. Besides restoring drinking water supplies, the upgrade also supports compliance with environmental regulations. Valley Water's regular reservoir releases ensure that downstream habitat has healthy flows and temperatures to sustain wildlife.

A breach of Anderson Dam at full capacity could have catastrophic consequences, including inundation of surrounding land more than 30 miles northwest to San Francisco Bay, and more than 40 miles southeast to Monterey Bay.

In December 2016, the Board was informed by Valley Water that findings from the geotechnical and geologic investigations performed during the project's design phase led to the conclusion that a more extensive dam retrofit than had originally been envisioned would have to be performed. Further, the Board was informed that the more extensive retrofit work would double the previous project's estimated cost. Valley Water presented the Board with a water supply cost-benefit analysis that showed the benefits of the more extensive retrofit project significantly outweighed the cost of not proceeding with the retrofit, which would require Valley Water to purchase additional imported water every year to make up for the loss of long-term storage at Anderson Reservoir. Based upon this information and analysis, the Board directed Valley Water to continue work on this critical infrastructure project.

Benefits

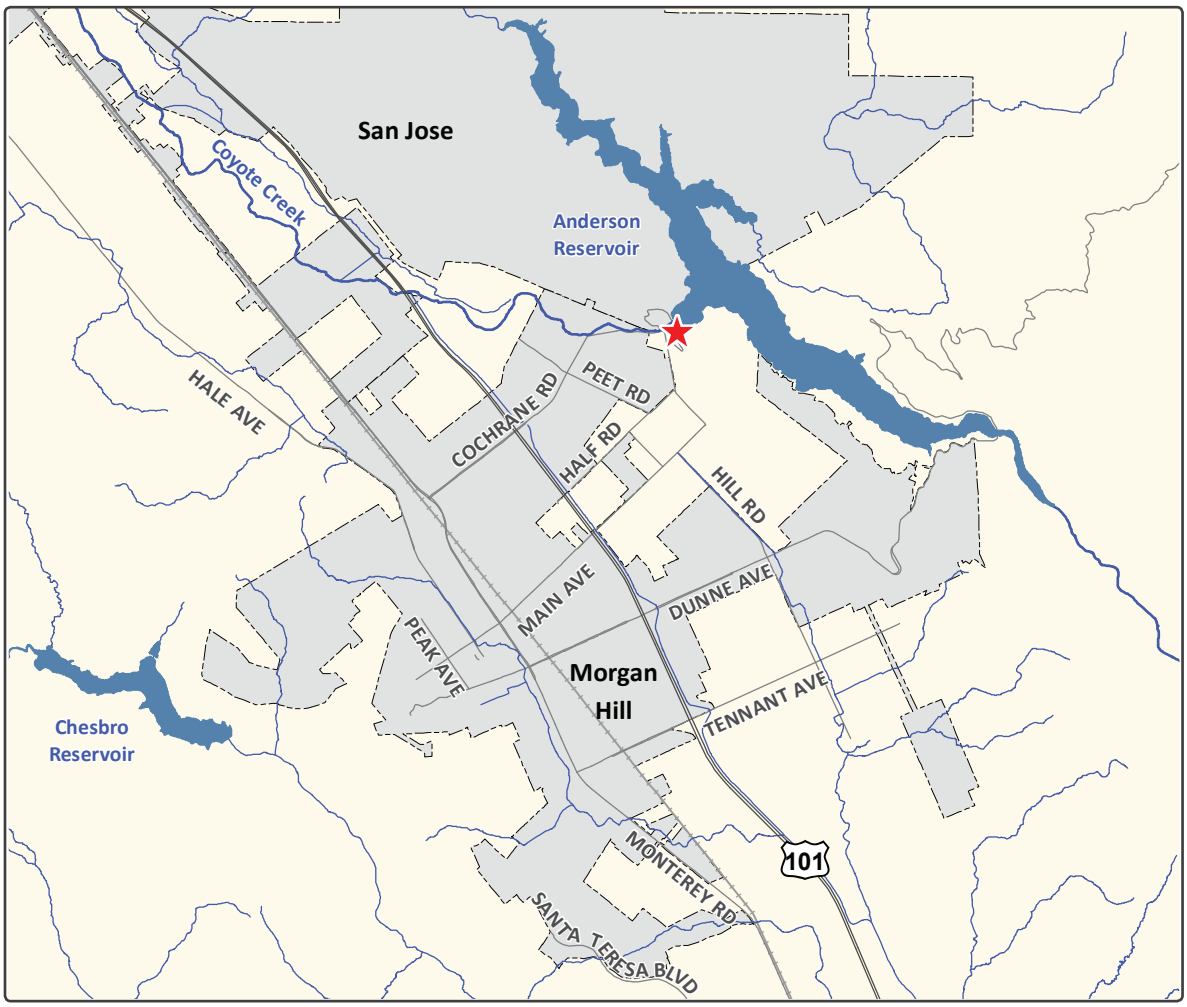
- Brings the dam into compliance with today's seismic standards
- Increases reliability and safety of our area's largest reservoir by protecting it from earthquakes
- Eliminates operational restrictions issued by the state Department of Water Resources Division of Safety of Dams (DSOD) which would restore Anderson Reservoir to its full capacity of approximately 90,373 acre-feet, regaining 48% or about 43,500 acre-feet of water storage for our current and future water supply
- Ensures compliance with environmental laws requiring reservoir releases that maintain appropriate flows and temperatures to support downstream wildlife habitat
- Minimizes the risk of uncontrollable releases from the reservoir which could cause downstream flooding

Key Performance Indicator (15-year Program)

1. Provide portion of funds, up to $45 million, to help restore full operating reservoir capacity of 90,373 acre-feet.

Geographic Area of Benefit: Countywide

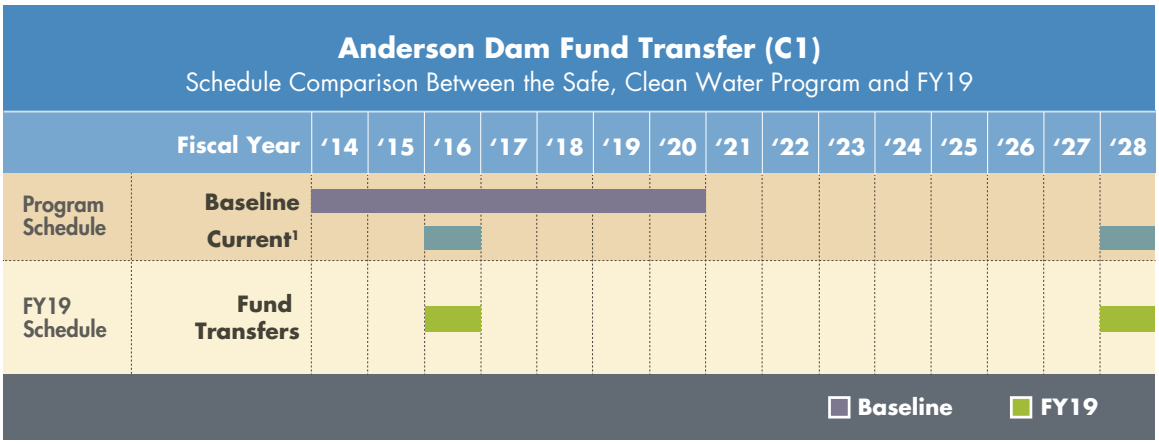
Project Location



Legend

★ Project Location	Santa Clara County Cities
— Coyote Creek	Santa Clara County

Schedule



[1]Board approved a schedule adjustment through the change control process in FY17.

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ADJUSTED
FY 18	ON TARGET

Status for FY19: ON TARGET

Progress on KPI #1:

- The first fund transfer was completed in FY16 and the final transfer is scheduled for FY28.

Financial Information

In FY19, there was no budget allocation for this project.

The total Safe, Clean Water Program funding level for this project was presented in 2012 dollars at $45 million; however, this amount is subject to inflation and the adjusted 15-year plan is $67.1 million. These funds will reimburse the Water Utility Enterprise Fund for the Anderson Dam Seismic Retrofit Project (ADSRP) and will be distributed in two (2) payments; the first payment of $14 million was transferred in FY16, and the remainder is scheduled to be transferred in FY28.

Opportunities and Challenges

Progress

Project design work continued in FY19, and the 90% design plans is underway.

At the January 23, 2018, Board meeting, Valley Water reported that the estimated total project cost, accounting

for inflation, has increased to $550 million. This estimate is based on the 30% design and development of construction sequencing. This project cost is included in Valley Water's FY 2019-2023 Capital Improvement Program (CIP).

Valley Water worked with the Federal Energy Resource Commission (FERC) at the beginning of 2019 to update the environmental/construction schedule of the Anderson Dam Seismic Retrofit Project (ADSRP). Valley Water submitted an updated schedule on April 12, 2019 that denotes that a Draft Environmental Impact Report (EIR) will be released for public review in June 2020 and that construction is now slated to begin October 2022.

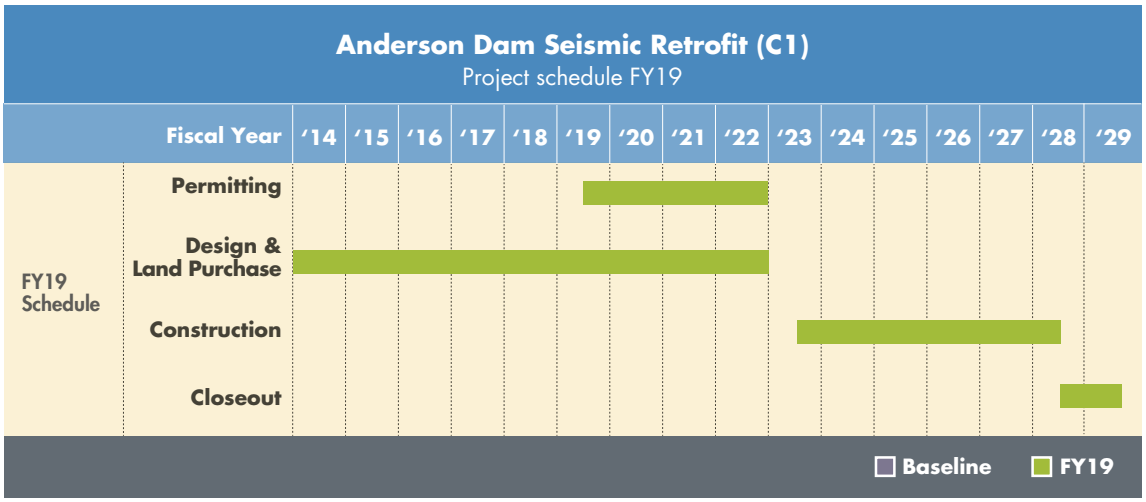
Valley Water has been working closely with the regulatory agencies since early 2018. For example, Valley Water held six (6) informal interagency consultations with key regulatory agencies. These were held in April, May, June, August and October of 2018, and February and April of 2019. Valley Water continued to engage key agencies through FY19 for negotiating and securing the necessary permits for project construction.

Permits

The proposed project is a covered activity under the Santa Clara Valley Habitat Plan, and the Habitat Plan will provide the federal Endangered Species Act and state Natural Community Conservation Planning Act compliance for several special-status species the project may affect, including California tiger salamander, California red-legged frog and Coyote ceanothus. Consistent with Habitat Plan requirements, Valley Water has consulted with wildlife agencies with project-specific design and construction details. A number of additional informal consultation efforts have also occurred with individual regulatory agencies including site visits with the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board/State Water Resource Control Board and National Marine Fisheries Service (NMFS).

Additionally, Coyote Creek downstream of Anderson Dam is designated critical habitat for Central California Coast steelhead and essential fish habitat for Chinook salmon. Early coordination with resource agencies indicates potential construction-related water quality concerns, fish passage considerations, and operational effects will require appropriate evaluation. A series of informal consultations were conducted with NMFS and California Department of Fish and Wildlife on these issues in July and November in 2018, and in February, March, April and May in 2019.

The Draft EIR, estimated to be released for public review in June 2020, will further evaluate the magnitude of impacts of implementation of the project. Valley Water will continue to engage natural resource agencies through development of environmental documentation to support natural resource permitting efforts.



New statutes and regulations

As part of the planned seismic retrofit work, the dam's emergency spillway walls are to be raised to accommodate the Probable Maximum Flood. In February 2017, major winter storms resulted in significant damage and erosion of the Oroville Dam's spillways in northern California. As a result, the Division of Safety of Dams (DSOD) and the Federal Energy Regulatory Commission (FERC) ordered a detailed condition assessment of the Anderson Dam spillway before the next flood season. The Anderson Dam spillway condition assessment was performed in October 2017, and the findings indicate that the existing spillway is in an acceptable, serviceable condition for the interim period before the project's construction. However, the spillway does not meet current standards and has the potential for an Oroville-type failure. Staff informed the Valley Water's Board in January 2018 that it would be prudent and cost-effective to achieve current spillway construction standards by replacing the spillway during the dam seismic retrofit project. The construction cost estimate for full reconstruction of the spillway is between $10 million and $15 million. Spillway reconstruction would be concurrent with the embankment construction and would not extend the project's construction period.

View to Valley Water's online inundation map at can be viewed on the C1 website, under Reports and Documents: https://www.valleywater.org/sites/default/files/Anderson%20Dam%20Inundation%20Maps%202016.pdf.

Confidence levels

Schedule: Moderate confidence

The more extensive dam retrofit work as defined by the modified project will require additional time to prepare design plans and specifications and the environmental documentation. The current estimated start of construction is 2022.

Funding: High confidence

The total project cost (current estimate is $550 million) is in Valley Water's 5-year Capital Improvement Program.

Permits: Moderate confidence

Anderson Dam is operated under licenses from DSOD and FERC. The project design will require their approval before construction. The permits from these agencies will depend mostly on the technical complexity of the project. DSOD and FERC will review the project at various design stages to facilitate issuance of the permits from the different agencies that will be required for this project, including: USACE, NMFS, California Department of Fish and Wildlife, California Department of Industrial Relations/California Occupational Safety and Health, State Water Resources Control Board, and the Santa Clara Valley Habitat Plan. The schedule for some of these permits cannot be easily predicted.

Jurisdictional Complexity: Moderate confidence

Valley Water owns and operates Anderson Dam and Reservoir, which are located within the City of Morgan Hill. Santa Clara County Parks manages the recreational activities at Anderson Reservoir through a lease agreement with Valley Water. Valley Water is working with these various agencies throughout the project.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Project C2

Emergency Response Upgrades

This project covers the development of an automated flood warning system that uses real-time rainfall data to predict stream flows and potential flood risk. The system efficiently disseminates information to emergency responders and the public using the web, text, automated calls and other technologies, allowing more time to activate flood-fighting measures and reduce flood damage.

Benefits

- Enhances interagency response to storm-related emergencies
- Improves the accuracy of flood forecasting services
- Helps municipalities and neighborhoods lessen flood impacts
- Maintains access to technical resources that assist municipalities with floodplain management
- Promotes community awareness of flood risks
- Implements risk reduction strategies consistent with the Federal Emergency Management Agency's (FEMA) Community Rating System as appropriate

Key Performance Indicator (15-year Program)

1. Map, install, and maintain gauging stations and computer software on 7 flood-prone reaches to generate and disseminate flood warnings.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET

Status for FY19: ON TARGET

Progress on KPI #1:

- In FY19, Valley Water installed its seventh gauging station (flood forecast point). The KPI still requires Valley Water to maintain the flood forecast points and computer software to generate and disseminate flood warnings. Listed below are the seven flood-prone reaches that now generate flood forecasts:

XBand Radar.

ON TARGET

Project C2 FY19 Highlights

- Installed the seventh gauging station (flood forecast point) at Canoas Creek.
- Conducted stress test of the flood warning system over the winter season.
- Added reservoir inflow forecast points for many Valley Water dams to assist release operations by predicting potential inflows.
- Engaged with the National Oceanographic and Atmospheric Administration (NOAA) team to implement the Advanced Quantitative Precipitation Information (AQPI) System.
- New X-Band radar atop Penitencia Water Treatment Plant was operational through the entire winter.

- San Francisquito Creek
- Ross Creek
- Upper Guadalupe River
- West Little Llagas Creek
- Uvas Creek
- Upper Penitencia Creek
- Canoas Creek

- In FY19, a relatively wet winter allowed for a good stress test of the flood warning system, helping Valley Water get familiarized with how the models and software behave in an operational setting.
- In FY19, Valley Water added reservoir inflow forecast points for many of its dams to assist release operations by predicting potential inflows.
- Valley Water has been actively engaged with the National Oceanographic and Atmospheric Administration (NOAA) team at the Earth System's Research Laboratory in Boulder, Colorado, to implement the Advanced Quantitative Precipitation Information (AQPI) System. The direct benefit to this project will be a customized rainfall forecast for Valley Water by NOAA that leverages new radar technologies.
- The new X-Band radar atop Penitencia Water Treatment Plant was operational through the entire winter. This system gives high resolution radar data which helps pinpoint where the most intense rainfall is taking place and how to facilitate flood responses.

Financial Information

In FY19, 103% of the annual project budget was expended.

Financial Summary ($ Thousands)
C2. Emergency Response Upgrades

Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$344	$353	$0	$353	103%	$3,357	56%

Opportunities and Challenges

2019 Season Performance

Some watershed parameters worked very well and predicted flow was accurate. However, other watersheds that were calibrated for the 2017 season didn't perform as effectively for the 2019 season. Further calibration is expected in the summer of 2019.

Coordination with Project E2: Emergency Response Planning

When applicable, the flood-forecasting products and data collected under Project C2: Emergency Response Upgrades is also being incorporated into Project E2: Emergency Response Planning documents to help inform decision makers. For example, technical mapping and flood-warning baselines produced under Project C2 are being used to update various flood-fighting action plans also known as emergency action plans (EAPs).

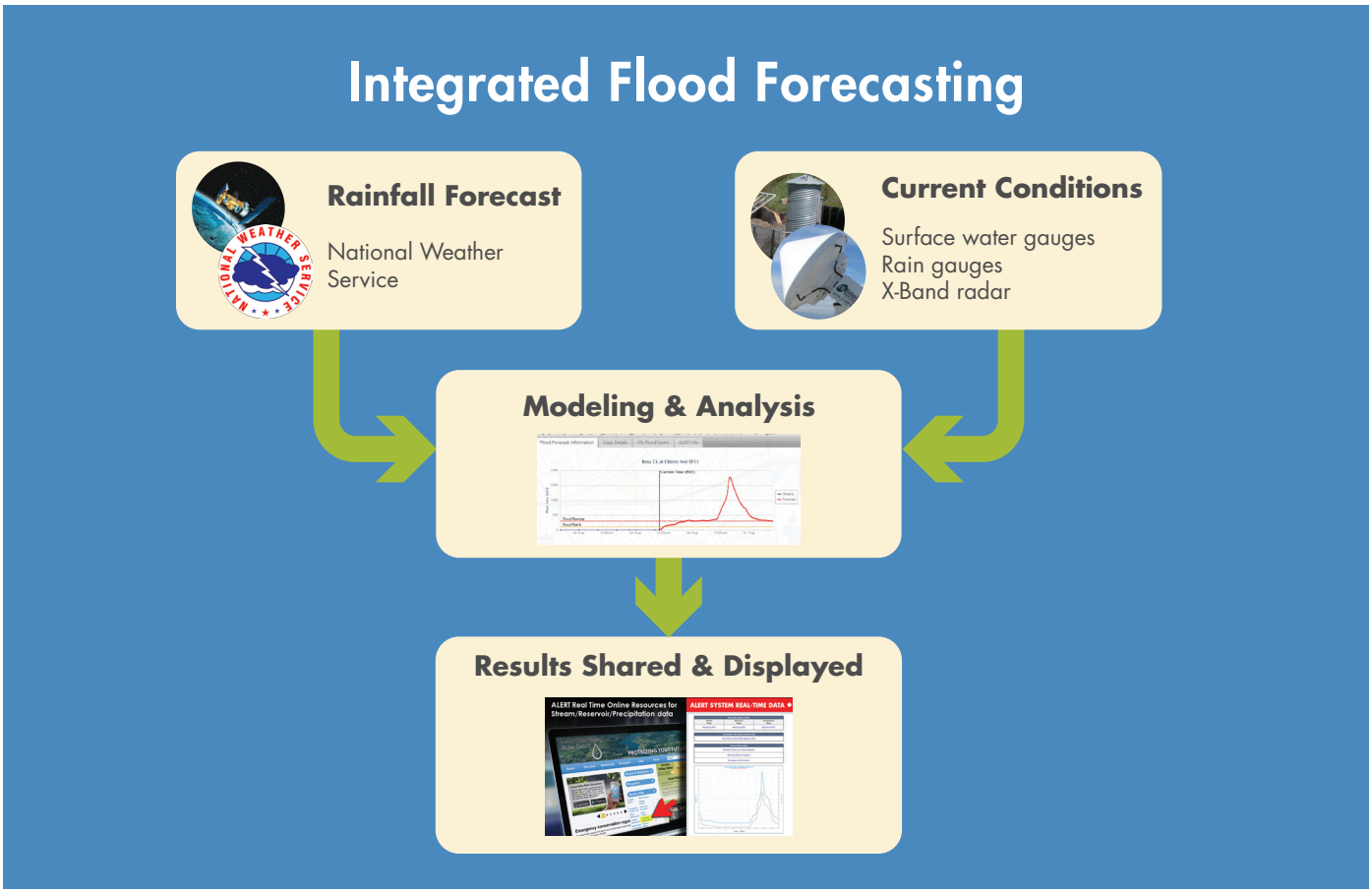
Project C2 focuses on the development of flood warning system infrastructure to assist flood responders by providing forecasted rainfall and stream flows and potential flooding information. Project E2 focuses on pre-event planning and collaboration with other agencies to develop flood response procedures that clarify roles and responsibilities before a flood event arises.

Modeling Software

This is an area of constant improvement as we are working with the software developer to add new features and adjust as each new version gets rolled out.

Rainfall Forecasts

Weather forecasts remained the biggest source of error. The AQPI project is beginning to develop forecasts to help with our warning system, and we hope to have official AQPI forecasts from the National Weather Service this upcoming winter.



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Priority D

Restore Wildlife Habitat and Provide Open Space

The eight (8) projects under Priority D restore and protect wildlife habitat and provide opportunities for increased access to trails and open space. Funding for this priority pays for control of non-native, invasive plants, revegetation of native species, and maintenance of previously revegetated areas. Other projects include removal of fish barriers, improvement of steelhead habitat and stabilization of eroded creek banks.

To support these and future restoration projects Valley Water will create a comprehensive, updated database on stream conditions countywide. Valley Water and other agencies can then use the new information to make informed decisions on where and how to use restoration dollars so they have the greatest value for wildlife.

Project D1
Management of Revegetation Projects

Project D2
Revitalize Stream, Upland and Wetland Habitat

Project D3
Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails

Project D4
Fish Habitat and Passage Improvement

Project D5
Ecological Data Collection and Analysis

Project D6
Creek Restoration and Stabilization

Project D7
Partnerships for the Conservation of Habitat Lands

Project D8
South Bay Salt Ponds Restoration Partnership

Guadalupe River riparian plantings.

ON TARGET

Project D1 FY19 Highlights

- Maintained 345 acres of revegetation projects at 114 sites countywide.

Project D1

Management of Revegetation Projects

This project supports Valley Water maintenance of at least 300 acres of existing revegetation projects throughout the 5 watersheds, and provides for maintenance of future revegetation sites. Funding for this project ensures that design objectives of all revegetation projects are maintained during the establishment period so that mitigation results in functional habitat that can support wildlife.

Benefits

- Maintains 300 acres of existing revegetation
- Allows Valley Water to monitor plant survival and habitat functions
- Complies with environmental laws requiring habitat mitigation for flood protection and water supply projects
- Provides for maintenance of future revegetation sites

Key Performance Indicator (15-year Program)

1. Maintain a minimum of 300 acres of revegetation projects annually to meet regulatory requirements and conditions.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	NOT ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET

Status for FY19: ON TARGET

Progress on KPI #1:

In FY19, Valley Water maintained 345 acres of revegetation projects. Maintenance work included invasive weed control, pruning, mowing and irrigation of 17 recently planted sites, which require more maintenance and 114 established sites, which require a lower level of maintenance, throughout all five (5) watersheds in Santa Clara County.

Financial Information

In FY19, 81% of the annual project budget was expended.

Valley Water could meet its KPI at this low expenditure because lower levels of maintenance were required due to the deferment of all new plantings in FY15 and FY16 in response to the drought and the Phytophthora (plant pathogen) issues. In addition to catching up on the deferred plantings, Valley Water anticipates that the regulatory agencies will require new plantings to mitigate for projects in the coming fiscal years, which will result in a significant increase in the required maintenance as they will need regular watering and weed control to reduce plant competition. Valley Water expects to be on track with its financial expenditures in the coming fiscal years.

Financial Summary ($ Thousands)
D1. Management of Revegetation Projects

Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$1,145	$928	$4	$932	81%	$22,259	20%

Opportunities and Challenges

Resources

This fiscal year, the KPI was met by supplementing available staff resources with a significant amount of outsourced labor. While this allowed Valley Water to meet its KPI, the use of outsourced labor is not sustainable. To address this, the Board approved one (1) new Maintenance Worker I (MWI) position for FY19.

Phytophthora

In FY16, Valley Water informed the regulatory agencies that due to the drought and Phytophthora (plant pathogen) issues, Valley Water would not be installing new riparian planting sites. Despite this, increased maintenance is required at the existing sites to ensure survival of vegetation. In FY17, Valley Water began installing new riparian planting sites utilizing seeds, cuttings, and container plants grown from nurseries that are following the Phytophthora working group's regional guidelines.

New Capital Project Mitigation

As the Safe, Clean Water capital projects are constructed, and after the initial 3-year plant establishment period, additional acreages of mitigation will become part of Project D1 and will require increased maintenance to meet their 10-year success criteria. This will require funding additional staff resources in the future.

Projections show that the following acres of mitigation will be transitioned into Project D1 resulting from the completion of specific capital projects:

- FY21 – An estimated 5 acres of mitigation from the Upper Guadalupe River Flood Protection Project
- FY21 – An estimated 1.2 acres of mitigation from the Upper Berryessa Flood Protection Project
- FY21 – An estimated 54.13 acres of mitigation from the Lower Silver Creek, San Francisquito Creek and Permanente Creek Flood Protection Projects
- FY22 – An estimated 30.9 acres of mitigation from the Lower Berryessa Creek Flood Protection Project
- FY23 and FY25 – An estimated 110.36 acres of mitigation from the Upper Llagas Creek and Lower Penitencia Creek Flood Protection Projects

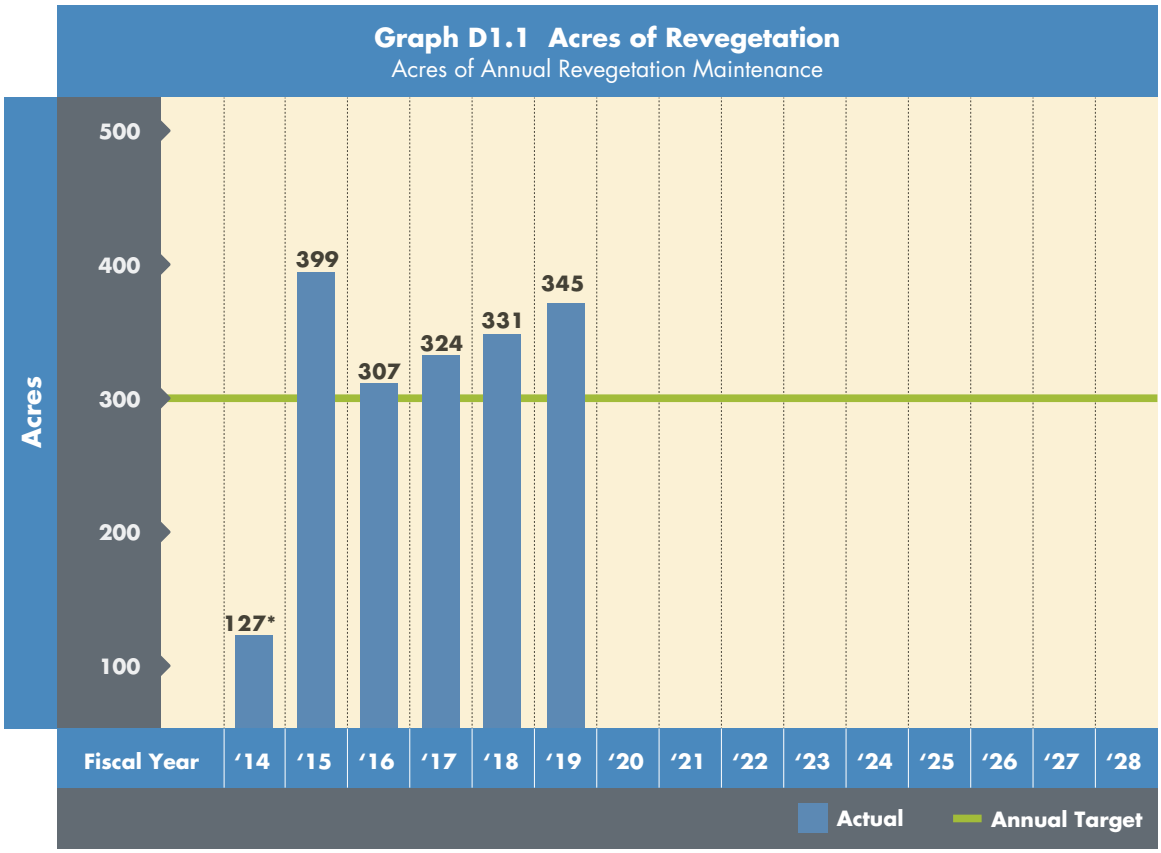
This is an increase of 199.7 acres of mitigation which will require significant maintenance for these projects to successfully meet their success criteria. Valley Water plans to use a combination of new staff positions that will be requested in FY21 and contract labor to supplement existing Valley Water labor resources to comply with the increased mitigation requirements.

New Stream Maintenance Program (SMP2) Permits

The SMP2 permits require a significant level of mitigation. Valley Water plans to use a combination of additional internal position approved in FY20 and additional contract labor to supplement existing Valley Water labor resources to comply with the increasing mitigation requirements.

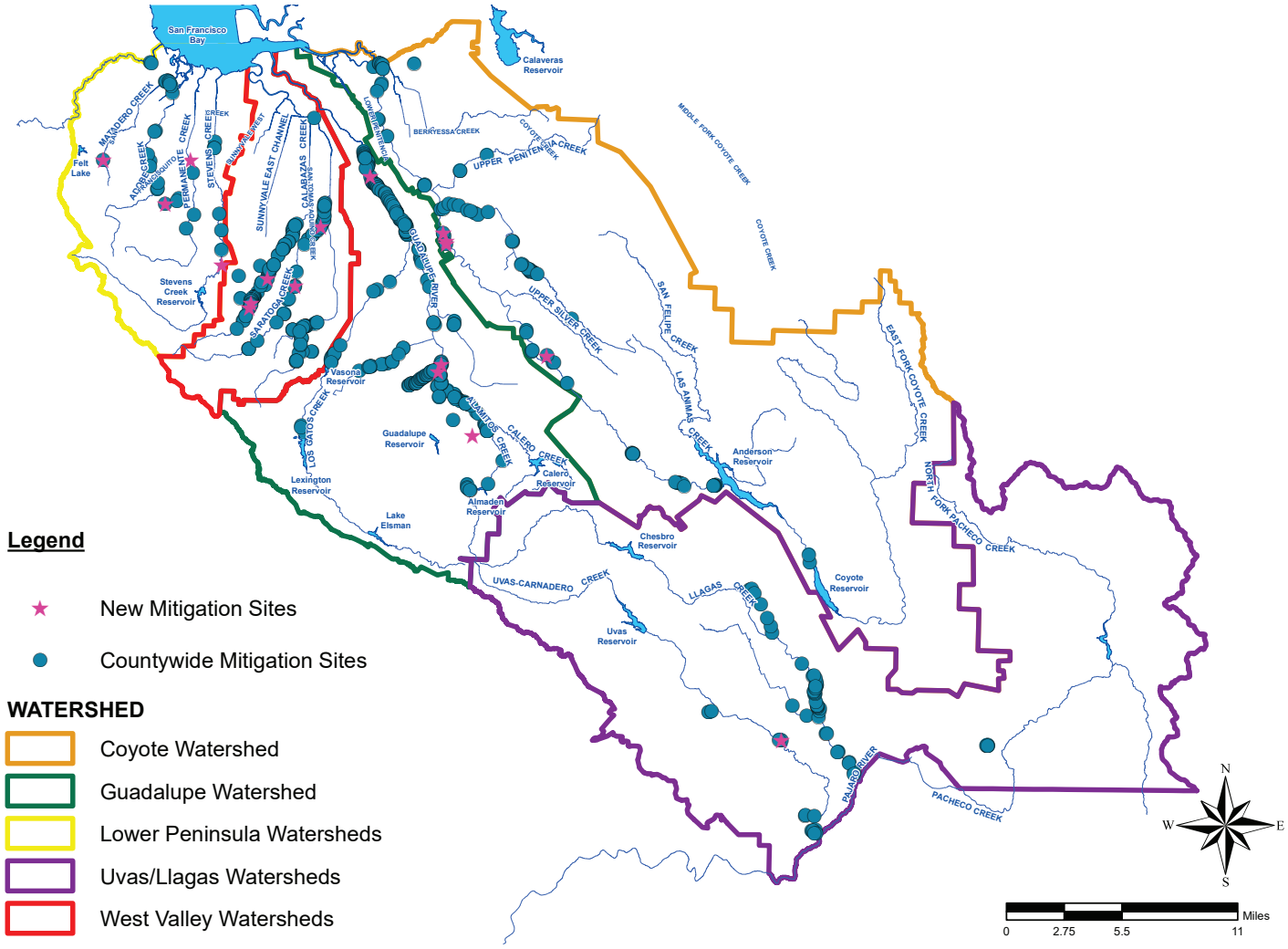
BEFORE: Guadalupe River US Blossom Hill Riparian planting.

AFTER: Guadalupe River US Blossom Hill Riparian planting.



*In FY14, the drought required much more maintenance than planned on new or revegetated plantings and thus impacted Valley Water's ability to meet the annual maintenance target.

FY19 Revegetation Maintenance: 345 Acres



Project D2

Revitalize Stream, Upland and Wetland Habitat

This project allows Valley Water to remove non-native, invasive plants and revegetate habitat with native species when needed. Funding also restores degraded habitat between revegetated sites to create a more contiguous habitat corridor for wildlife. This project includes targeted control of especially damaging non-native, invasive plant species such as *Arundo donax*, and education for nearby landowners and other stakeholder groups on the control of harmful species. This project also helps implement the Stream Corridor Priority Plans developed in Project D3.

Coyote Creek arundo donax removal.

ON TARGET

Project D2 FY19 Highlights

- Along with D2 partners, removed a total of approximately 63 acres of invasive and non-native vegetation stands.
- Cut about 2.5 acres of invasive and non-native woody vegetation along the Lower Guadalupe River.
- Removed approximately 7.7 acres of invasive and non-native plants along Stevens and Saratoga creeks.
- Along with D2 partners, revitalized approximately 53 acres.
- Updated five (5) plant palettes in FY19.

Benefits

- Increases viability of native riparian species by reducing competition from non-native, invasive species
- Improves habitat by installing tidal and riparian plant species
- Improves ecological function of existing riparian and wetland habitats to support more diverse wildlife species
- Improves patchy wildlife corridors by increasing connectivity of habitat
- Increases community awareness about the damaging impact that non-native, invasive plants have on local ecosystems

Key Performance Indicators (15-year Program)

1. Revitalize at least 21 acres, guided by the 5 Stream Corridor Priority Plans, through native plant revegetation and removal of invasive exotic species.
2. Provide funding for revitalization of at least 7 of 21 acres through community partnerships.
3. Develop at least 2 plant palettes for use on revegetation projects to support birds and other wildlife.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET

Status for FY19: ON TARGET

Progress on KPI #1:

Valley Water and its D2 Project partners -- the City of San José (San José), California State Coastal Conservancy (Conservancy) and Midpeninsula Regional Open Space District (Midpen)) -- exceeded the KPIs by removing approximately 63 acres of invasive and non-native vegetation stands (10 acres by Valley Water and 53 acres in partnerships under KPI #2) through FY19. Successfully controlling invasive vegetation often requires repeated treatments at infested sites over multiple years. This is especially necessary for giant reed (*Arundo donax*) control. For example, giant reed sites on Coyote Creek initially treated by Valley Water's Stream Maintenance Program (SMP) must continue to be managed by the City of San José for successful revitalization. For KPI #1, Valley Water accomplishments without partners:

- Cut about 2.5 acres of invasive and non-native woody vegetation along the Lower Guadalupe River to help meet U.S. Army Corps of Engineers (USACE) levee recommendations, reduced flood risk and meet riparian mitigation performance standards by decreasing invasive pressure from areas adjacent to mitigation sites.
- Removed approximately 7.7 acres of invasive and non-native plants along Stevens and Saratoga creeks in coordination with SMP.

Approximately 3.3 acres of giant reed removal started by Valley Water under SMP in FY18 and FY19 on City of San José property is discussed under KPI #2 below. Maps showing the invasive and non-native vegetation stands controlled, locations and additional information are provided on the Project D2 web page: https://www.valleywater.org/project-updates/d2-revitalize-stream-upland-and-wetland-habitat.

As in prior years, Valley Water continued to prioritize habitat revitalizations by selecting areas where invasive or non-native vegetation has at least one (1) of the following characteristics:

a. Impacts sensitive plant or animal communities, especially habitats for state or federally listed species;
b. Involves flood protection, where invasive plant removal may increase hydraulic flow conveyance, or is recommended by USACE for levee stability;
c. Grows adjacent to, but not within, native habitat mitigation or revegetation sites
d. Revitalizes the functionality of wetland, riparian, and tidal habitats;
e. Improves wildlife corridors by increasing connectivity of habitat, especially along the Coyote Creek watershed to improve wildlife movement between the Santa Cruz Mountains and Diablo Range; and
f. Benefits upper watershed habitats, where invasive vegetation has potential to migrate downstream, and greater impacts due to proximity to sensitive communities and wildlife corridors.

The criteria listed above is used to distinguish priority areas for D2 and are consistent with the approach used to highlight vegetation removal and installation locations for SCPPs. In FY19, Valley Water adopted the criteria set forth under D2 for incorporation into all SCPPs.

Progress on KPI #2: (Completed in FY19)

In FY19, Valley Water and the three (3) D2 partners exceeded the KPI by revitalizing approximately 53 acres through community partnerships by removing invasive vegetation. Maps and descriptions are available on the D2 web page.

Task Orders for the City of San José and California State Coastal Conservancy were signed, approving the flow of D2 funds for invasive plant management on Coyote Creek (primarily *Arundo donax*, a giant reed) and South San Francisco Bay (invasive smooth cordgrass, *Spartina alterniflora* and its hybrids), respectively.

- City of San José – The City of San José has a contractor to take over vegetation management at the site starting fall of 2019. Extensive invasive and non-native vegetation mapping was done in cooperation with SMP, D5 Ecological Data Collection and Analysis project, and the city's consultants (see: https://htharvey.maps.arcgis.com/apps/View/index.html?appid=8df879f841ee40d5b6b89fde2cf59142). Valley Water conducted multiple rounds of treatment to begin removing giant reed at Oakland Road. The city is currently contracting to take over the site in the fall of 2019.
- California State Coastal Conservancy – This partnership continues systematic control of invasive Spartina in South San Francisco Bay tidal marsh and ecotone habitats. All the Safe, Clean Water partnership paperwork was approved to resume funding of approximately 0.8 more acres of invasive Spartina removal in FY19, adding to the 4.2 acres controlled by extending the Clean, Safe Creeks grant through FY15, as well as treatments at other locations funded from other sources. About 5 acres of invasive Spartina was removed from Santa Clara County, Faber and Laumeister marshes using Clean, Safe Creeks and Safe, Clean Water funding through FY19.
- Midpeninsula Regional Open Space District (Midpen) – The partnership was signed at the beginning of FY18 to remove invasive and non-native vegetation at the Bear Creek Redwoods Open Space Preserve, protect sensitive upper-watershed species and habitats and conduct outreach on native habitat revitalizations. In FY19, approximately 16 more acres were restored, adding to an updated 31.6 acres in FY18 for a current total of almost 48 acres under this D2 partnership (see: https://www.openspace.org/our-work/projects/restoring-bcr and the Midpen map on the D2 web page). The Bear Creek Preserve was opened to the public on June 8, 2019.
- Valley Water continued to work with partners in the Santa Clara County Wildlife Corridors Working Group. The Working Group just published a report including recommendations to reduce wildlife-vehicle collisions on the Monterey Road corridor in Coyote Valley (see http://scv-habitatagency.org/CivicAlerts.aspx?AID=44 and click on Additional Info).

Progress on KPI #3: (Completed in FY15)

The two (2) plant palettes required for Project D2 were created in FY15, meeting KPI #3. In FY16, an additional three (3) palettes were developed, two (2) of which were in response to an IMC recommendation showing plants that support birds and other wildlife. All five (5) palettes were updated in FY19 and are available on the Project D2 web page for use on revegetation and restoration projects, landscaping and native gardens. The palettes have links to other websites with additional ecological information and wildlife values for each plant species

- Links to external resources on native habitats and gardening with natives were checked, updated if needed, and added to the Project D2 web page. Valley Water continues to look for new and check existing internet resources, and mobile phone applications that have native planting guides, and plant species identification, such as Calscape, PlantSnap, PictureThis, Audubon, Calflora, and the National Wildlife Federation. Recent concerns and emphasis have been placed on planting native flowers for pollinators, including milkweed (*Asclepias spp.*) for Monarch butterflies (see the native plants for bees and butterfly's palette requested by the IMC on the D2 web page).

Financial Information

In FY19, 94% of the annual project budget was expended.

This under-expenditure was due to the emphasis on partnerships.

Financial Summary ($ Thousands) D2. Revitalize Stream, Upland and Wetland Habitat						
Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$1,558	$571	$894	$1,465	94%	$18,190	18%

Opportunities and Challenges

Inventory, Mapping, Prioritization and Working Cooperatively

Good quality maps showing location and areas of invasive and non-native vegetation cover are essential for early detection, strategic management, monitoring, writing the CEQA documents and environmental permit applications necessary to re-establish native plants in jurisdictional habitats (creek and river channels, riparian forests, aquatic habitats, and wetlands). The D2 partnership with the City of San José offered a unique opportunity to intensively map invasive and non-native vegetation cover at San José and Valley Water properties along Coyote Creek. The California Invasive Plant Council (Cal-IPC) and Calflora are improving their statewide invasive plant detection and mapping systems. Valley Water, Midpen and other resource agencies are using Calflora more extensively. CalWeedMapper, WHIPPET and Calflora are now integrated and available to the public, including access via a cell phone application. Cal-IPC and Valley Water encourage land managers to submit their invasive plant management records once a year and early-detection observations immediately. Valley Water and Midpen began reinvigorating the Santa Clara Weed Management Area working group by meeting in April with Santa Clara County Parks, California State Parks, County of Santa Clara Division of Agriculture and Caltrans.

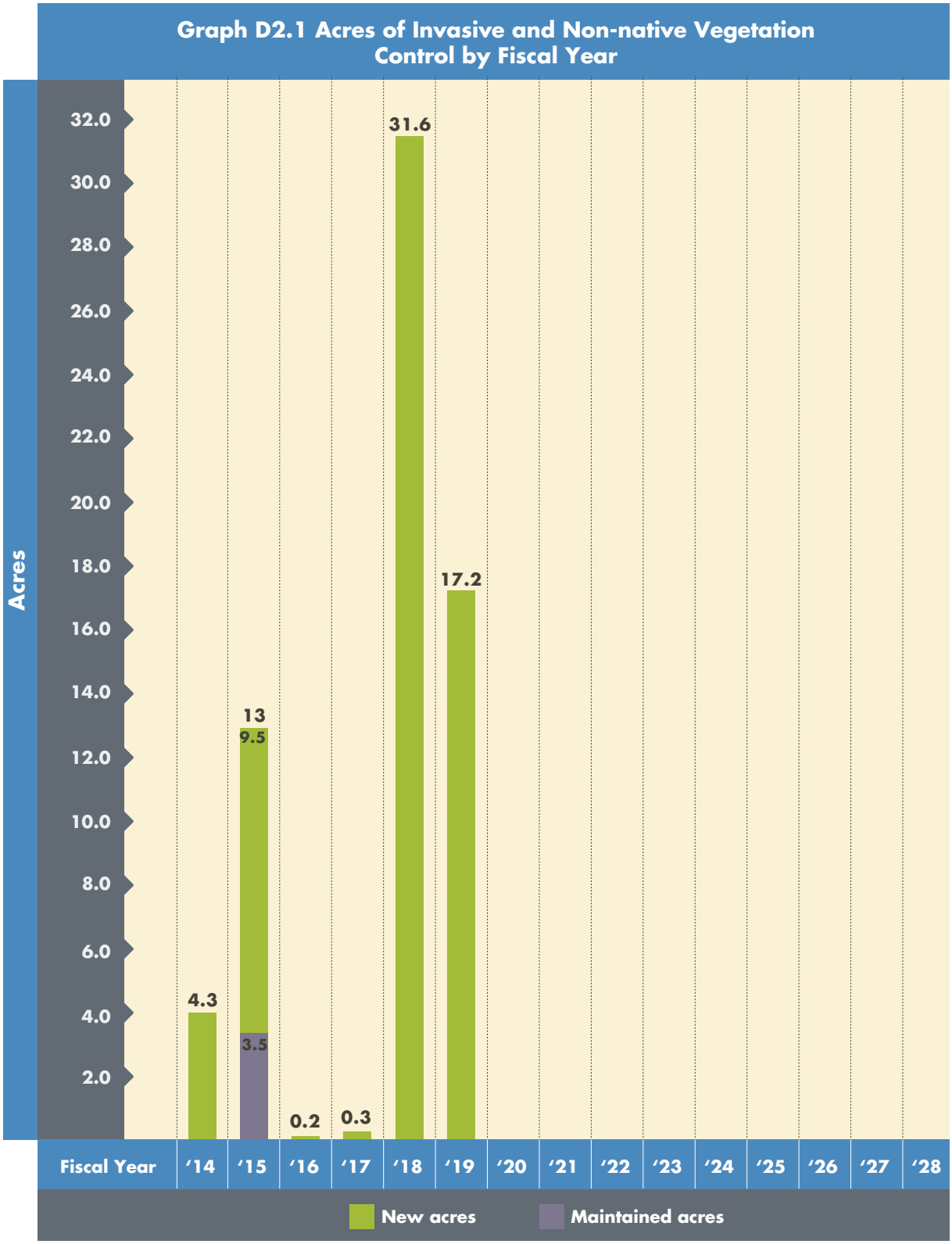
Education and Outreach

There are numerous opportunities to conduct education and outreach, particularly with schools and conservation groups. Project D2 has been relying on its internet site, participating in scientific conferences, working with resource agencies and partners, particularly Midpen, Conservancy, Calflora and Cal-IPC. Some of the best sources for invasive plant removal techniques are linked on the Project D2 web page, Reports & Documents tab: https://www.valleywater.org/project-updates/d2-revitalize-stream-upland-and-wetland-habitat. New information is rapidly becoming available, for example by Calflora, and especially Cal-IPC recently organizing science-based tools and information for land managers (scroll to the middle of their home page at: https://www.cal-ipc.org/). The D2 partnership with Midpen is important for increasing public awareness and education. Midpen organizes and participates in community and children-oriented events, docent-led activities, outdoor service projects, nature hikes and field tours, posts educational trail signs and operates a nature center and farm.

Water molds (*Phytophthora* spp.)

Valley Water and Midpen efforts to study, plan and experiment with remediating sites infested by water molds (*Phytophthora spp.*) are ongoing. Some infamous examples of water molds include sudden oak death (SOD, *P. ramorum*) and the historic European potato famine. Infection by *Phytophthora* species can lead to root rot, which induces drought-like symptoms from reduced water uptake, and ultimately plant death may occur. Infected plants may not show any initial signs of the disease or stress. Water molds are a complex challenge to restoring native habitats, especially combined with other stressors; the aggressive nature and abundance of invasive plants, water supply with drought and climate change, disturbed site conditions and other plant pathogens. Valley Water presented at conferences and by invitation to the State Water Resources Control Board, chaired special *Phytophthora* sessions, implemented a plant pathogen testing program, developed best management practices for contractors and nurseries, and participated in the regional Working Group for *Phytophthoras* in Native Habitats (www.Calphytos.org). Collaborative efforts must continue to better understand and reduce the spread of water molds and all plant pathogens. The Project D2 web page has several links to provide information on water molds (see the Reports and Documents tab at: https://www.valleywater.org/project-updates/d2-revitalize-stream-upland-and-wetland-habitat).

Figure D2.1 - Summarizes the amount of invasive and non-native vegetation removal by D2 and its partners each fiscal year. Colors show the locations with acres noted for each place in the legend.



Project D3

Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails

This project provides grants and partnerships for activities such as developing Stream Corridor Priority Plans; creating or enhancing wetland, riparian and tidal marsh habitat; protecting special status species; removing fish migration barriers; installing fish ladders; removing non-native, invasive plant species; and planting native species. The project includes 7 grant cycles, 1 held approximately every other year during the 15-year duration of the Safe, Clean Water Program, as well as funding for partnerships that restore stream and wetland habitat and provide open space access. This project also funds work that provides access to creekside trails or trails that provide a significant link to the creekside trail network, for example, the possible construction of a bridge over Coyote Creek in the Rock Springs neighborhood.

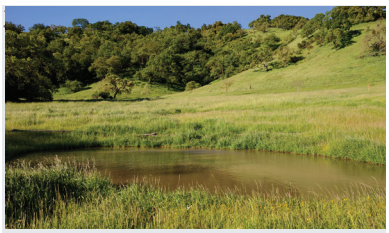
Benefits

- Enhances creek and bay ecosystems
- Improves fish passage and habitat
- Expands trail and open space access
- Leverages community funding through grants
- Increases collaborations and partnerships for stewardship activities with cities, the County, nonprofit organizations, schools and other stakeholders

Key Performance Indicators (15-year Program)

1. Develop 5 Stream Corridor Priority Plans to prioritize stream restoration activities.
2. Provide 7 grant cycles and additional partnerships for $21 million that follow pre-established criteria related to the creation or restoration of wetlands, riparian habitat and favorable stream conditions for fisheries and wildlife, and providing new public access to trails.

Geographic Area of Benefit: Countywide



South Valley meadow restoration.

ON TARGET

Project D3 FY19 Highlights

- Completed the first of 5 Stream Corridor Priority Plans (SCPPs) for Stevens Creek.
- Adopted the criteria set forth under Project D2 for incorporation into all SCPPs.
- The Board approved funding for seven (7) wildlife restoration, three (3) trails and five (5) mini-grant projects.
- Established a wildlife restoration partnership with the Santa Clara County Office of Education.
- Continued to administer six (6) trail and 12 wildlife restoration grants, and two (2) wildlife restoration partnerships

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET

Status for FY19: ON TARGET

Progress on KPI #1:

In FY19, Valley Water completed the first of 5 Stream Corridor Priority Plans (SCPPs) for Stevens Creek. Development of the second SCPP will begin in FY20 for the Coyote Creek Watershed. See Opportunities and Challenges section for additional information and background.

Additionally, in FY19 Valley Water adopted the criteria set forth under Project D2 for incorporation into all SCPPs. The criteria are used to distinguish priority areas for D2 and are consistent with the approach used to highlight vegetation removal and installation locations for SCPPs, selecting areas where invasive or non-native vegetation have at least one of the following characteristics:

- Impacts sensitive plant or animal communities, especially habitats for state or federally listed species;
- Involves flood protection, where invasive plant removal may increase hydraulic flow conveyance, or is recommended by USACE for levee stability;
- Grows adjacent to, but not within, native habitat mitigation or revegetation sites;
- Revitalizes the functionality of wetland, riparian, and tidal habitats;
- Improves wildlife corridors by increasing connectivity of habitat, especially along the Coyote Creek watershed to improve wildlife movement between the Santa Cruz Mountains and Diablo Range; and
- Benefits upper watershed habitats, where invasive vegetation has potential to migrate downstream and greater impacts due to proximity to sensitive communities and wildlife corridors.

Progress on KPI #2:

On October 23, 2018, the Valley Water Board awarded a total of $1,673,056 for seven (7) D3 Wildlife Restoration projects. Valley Water received the seven (7) applications during the FY18 grant cycle from January 26, 2018 through March 30, 2018. The projects recommended and awarded funding were:

» Friends of Stevens Creek Trail – Stevens Creek Steelhead Passage Improvement Project ($120,000);

» San Francisco Bay Bird Observatory (SFBBO) – Establishing Forster's Tern Nesting Sites Project ($164,000);

» Grassroots Ecology – Adobe Creek Corridor Extension Project ($150,753);

  - Grassroots Ecology – Matadero Creek Project ($49,356);
  - San José Conservation Corps – Coyote Creek Invasive Plant Removal and Disadvantaged Youth Career Path Project ($389,024);
  - Santa Clara Valley Habitat Agency – Pacheco Creek Preserve Stream and Riparian Project ($500,000); and
  - South Bay Clean Creeks Coalition – Los Gatos Trestle Area Restoration Project ($299,923).
- On April 23, 2019, the Board awarded a total of $329,906 for three (3) D3 Access to Trails and Open Space projects. Valley Water received four (4) grant applications from November 13, 2018 through February 15, 2019. Of the applications received, the three (3) recommended and awarded funding were:
  - City of Milpitas – Milpitas Lower Penitencia Creek Pedestrian Bridge Project ($60,000);
  - City of Morgan Hill – Madrone Channel Trail Improvements Project ($120,000); and
  - Midpeninsula Regional Open Space District – Beatty Trail Connection Project ($149,906).
- In FY19, Valley Water established one (1) Wildlife Restoration Partnership with the Santa Clara County Office of Education (SCCOE) in the amount of $50,000. The project will support expansion of SCCOE's Education Outreach Program and environmental education programming to reach more students, specifically in school districts that lack resources and opportunities to implement environmental education in their classrooms.
- In FY19, five (5) mini-grants were awarded totaling $23,230.54. Initially the Board had awarded six (6) mini-grants, however one (1) of the grant recipients withdrew their grant application due to lower than expected participation in their youth summer camp project.
- From FY14-18, six (6) Access to Trails and Open Space grants were awarded and Valley Water continues to administer these projects.
- From FY14-18, 22 Wildlife Restoration grants were awarded. Of these, nine (9) projects have been completed and closed. One (1) grantee decided to no longer use the grant dollars for their project. Valley Water continues to administer the remaining 12 projects.
- From FY14-18, two (2) Wildlife Restoration partnerships were awarded, which Valley Water continues to administer.
- See Appendix C for a cumulative list of grants and partnerships awarded to date.

Financial Information

In FY19, 56% of the annual project budget was expended.

Although Valley Water awarded 10 D3 Wildlife Restoration and Access to Trails & Open Space grants during the year, four (4) of those projects required CEQA compliance and, therefore, those agreements will not be executed until FY20. As a result, the funds could not be expended in FY19 and will be adjusted into the FY20 budget.

Financial Summary ($ Thousands) D3. Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails						
Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$3,719	$484	$1,588	$2,071	56%	$24,092	30%

Opportunities and Challenges

Stream Corridor Priority Plans

In FY18, five (5) watershed creek reaches were selected for the development of the plans. The creek reaches selected are as follows:

1. Lower Peninsula Watershed - Stevens Creek;
2. Coyote Watershed - Coyote Creek (candidate reach is approx. Montague to Coyote Narrows);
3. Guadalupe Watershed - Guadalupe River;
4. Pajaro Watershed - Uvas Creek (downstream of Uvas Reservoir);
5. West Valley Watershed - Saratoga Creek.

These creeks were selected based on various factors including habitat potential and quality and demonstrated public and volunteer interest. The list of selected creek reaches is subject to change as appropriate.

The initial SCPP for Stevens Creek downstream of the dam was finalized in December 2018.

The next SCPP will be developed for the Coyote Creek watershed. While the 5-Year Implementation Plan target for FYs19-23 was to complete the second SCPP in FY19, it is anticipated to begin in FY20 following additional studies and tool development, including a partnership effort with San Francisco Estuary Institute/Aquatic Science Center to develop the Coyote Creek Native Ecosystem Enhancement Tool (CCNEET) to identify priority sites for stream stewardship. Despite this delay, staff is confident that it will meet the KPI.

Staffing and Program Improvements

In FY19, Valley Water hired a Senior Management Analyst to manage the day-to-day operations of the program including administration of the most current grant cycle, implementation of the new grants management system, and ensuring grantee reports, invoices and amendment requests are processed accordingly.

Grant administration staff continued to work with planning staff to streamline and expedite the review and execution of grant agreements, especially for grant projects that require CEQA compliance. Valley Water also developed more concise application, invoicing and reporting documents that will provide greater uniformity across the various grant priority areas.

Mini-Grant Program

On October 9, 2018, the Board approved the renewal of the Mini-Grants program, allocating $200,000 each year, with each mini-grant not-to-exceed $5,000.

In FY19, five (5) mini-grants were awarded totaling $23,230.54. Initially six (6) mini-grants were awarded, however one (1) of the grant recipients withdrew.

The program is designed to provide seed funding to encourage broader and long-term community engagement in wildlife habitat restoration and watershed stewardship activities in Santa Clara County. The mini-grant program is not designed to cover all expenses associated with an activity, but rather a portion to kick start stewardship activities. Eligible activities include tangible educational activities and small-scale physical improvements.

Grants outreach

In May 2018, Valley Water engaged Fluxx Labs, Inc. to build a new grants management system that will allow applicants to apply for grants, as well as allow grantees to provide project invoices and reports. The new system is scheduled to launch in FY20 and a series of training sessions will be conducted to accompany the system launch. Throughout the year, Valley Water will solicit feedback from current grantees on the new system through post-training surveys and follow up with quarterly surveys. The results of the surveys will be reported in FY20.

Project D4

Fish Habitat and Passage Improvement

This project helps restore and maintain healthy steelhead trout populations by improving fish passage and habitat. Possible work sites include Alamitos Creek at Lake Almaden and Ogier Ponds in the Coyote watershed, where man-made creek alterations disrupt fish migration. The project also includes studies of steelhead streams throughout the county to determine where improvements are needed to support spawning, rearing and migration. Funding also pays for the development of a program to use large woody debris to create fish habitat.

Benefits

- Improves spawning and rearing habitat within the Coyote, Guadalupe and other watersheds
- Improves steelhead trout habitat
- Helps provide required mitigation for environmental impacts of reservoir and recharge operations and for countywide Stream Maintenance Program

Key Performance Indicators (15-year Program)

1. Complete planning and design for 2 creek/lake separations.
2. Construct 1 creek/lake separation project in partnership with local agencies.
3. Use $6 million for fish passage improvements.
4. Conduct study of all major steelhead streams in the county to identify priority locations for installation of large woody debris and gravel as appropriate.
5. Install large woody debris and/or gravel at a minimum of 5 sites (1 per each of 5 major watersheds).

Geographic Area of Benefit: Countywide

Large woody debris site.

ADJUSTED

Project D4 FY19 Highlights

Creek/Lake Separation:

- For Almaden Lake, the second internal draft of the Environmental Impact Report (ADEIR) completed.
- For Ogier Ponds, the Valley Water Board and the County Board of Supervisors agree to move the feasibility study into planning.

Fish Passage Improvements:

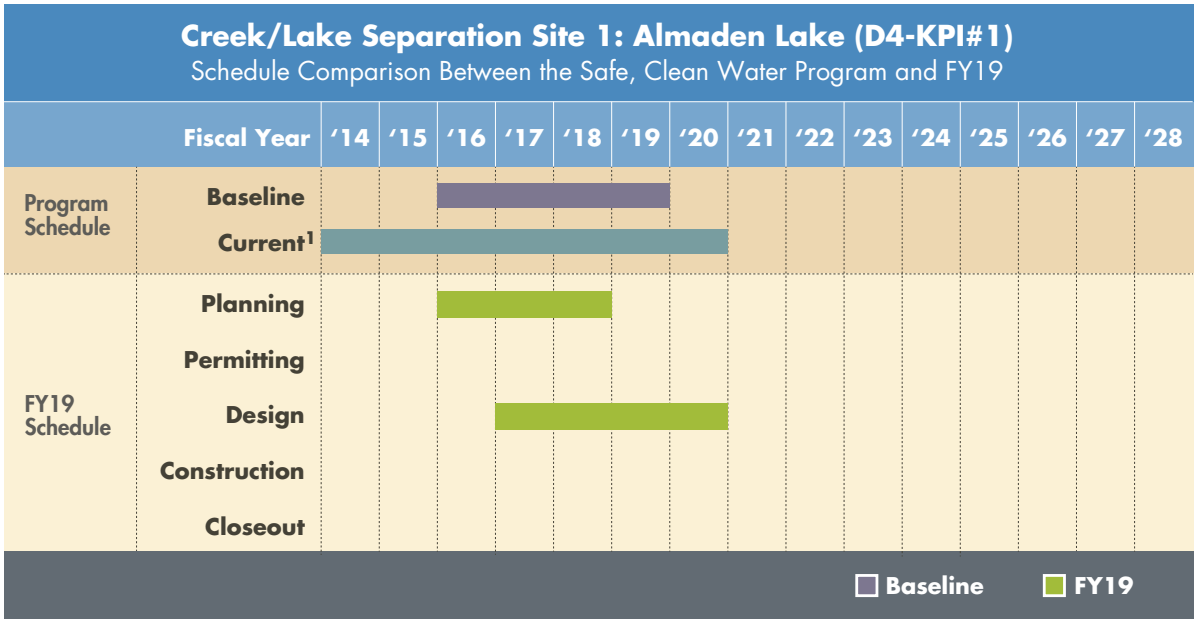
- For the Bolsa Road Fish Passage Project, fully developed design plans, conducted the California Environmental Quality Act (CEQA) analysis and applied for permits to implement.
- For the Singleton Road Fish Passage Project on Coyote Creek, continued coordination with the City of San José and developed a design that will result in an interim fish passage improvement project in advance of the city's long-term solution.

Fish Habitat Improvements:

- In June 2019, began construction work on the Los Gatos Creek gravel augmentation/large woody debris placement project, which is located just downstream of Highway 17.

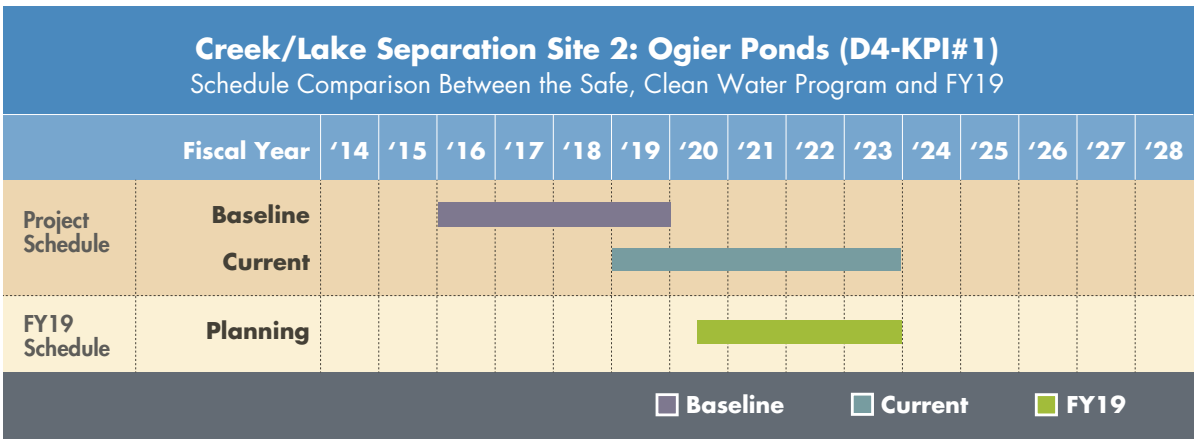
Schedule

Site 1: Almaden Lake



[1] Board approved a schedule adjustment through the change control process in FY19.

Site 2: Ogier Ponds



Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ADJUSTED
FY 18	ON TARGET

Status for FY19: ADJUSTED (Schedule Adjustment)

Progress on KPI #1:

Creek/Lake Separation Site 1: Almaden Lake

In March 2019, the environmental consultant, Environmental Science Associates (ESA), completed a second internal administrative draft of the Environmental Impact Report (ADEIR). Valley Water reviewed the ADEIR and had extensive comments, which were addressed. Public review of the draft EIR is anticipated to be in late 2019. To prepare for the public review period of the draft EIR, Valley Water began re-engaging with key stakeholders including the San Francisco Bay Regional Water Quality Control Board, City of San José, and interested community groups. An updated project banner was developed and displayed at the park and the project fact sheet was updated as well. The project continues to receive a lot of interest from the community.

Existing Almaden Lake Park, looking north at Coleman Road bridge along approximate proposed new levee location.

Creek/Lake Separation Site 2: Ogier Ponds

- After completion of the Feasibility Study in March 2018, Valley Water's Board directed staff to return to the Board within six months with a budget adjustment request to move the feasibility project to the planning phase, provided the landowner--Santa Clara County Parks (County Parks) -- agreed to participate. In October 2018, the Board authorized the Chief Executive Officer to execute a Memorandum of Agreement (MOA) with Santa Clara County Parks solidifying the partnership and contribution of in-kind labor hours of County staff towards development of a Planning Study Report. The Board also approved a budget adjustment and requested that the Board of Supervisors be informed as to the intent to enter into planning.
- On December 13, 2018 Valley Water's Board convened a joint meeting with the County Board of Supervisors in which Ogier Ponds Planning Study was discussed. Both boards agreed to move the feasibility study into planning with Valley Water and County Parks staff to jointly collaborate on a scope of work for planning to ensure integration of recreation and stream stewardship elements.
- Valley Water drafted a Memorandum of Agreement solidifying the terms of the planning study and collaboration of both agencies.

Progress on KPI #2:

- The Ogier Ponds Project is on hold pending a completed MOA from the County before initiating the planning phase, and the Almaden Lake project is in the design phase. The Board has not yet selected which project will receive construction funding from the Safe, Clean Water Program.

Progress on KPI #3:

Fish Passage Improvements

- In FY19, Valley Water fully developed design plans, conducted the CEQA analysis and applied for permits to implement the Bolsa Road Fish Passage Project. While the project maintains its fish passage benefits, as a result of consultations with in-house fisheries biologists and environmental planners as well as the regulatory permitting agencies, the project design was changed to include geomorphic design features that will restore stability and stream function. In response, the Board approved funding construction through Project D6 Creek Restoration and Stabilization.
- The project consists of installation of a gradually sloped riffle-pool system along approximately 1,700 linear feet of Uvas-Carnadero Creek to restore the stream invert due to decades of channel incision and base lowering, and to steadily elevate the stream over existing fish passage barriers including a Union Pacific Railroad (UPRR) crossing support slab and a dysfunctional Denil fish ladder that was previously installed to bypass the UPRR crossing. This stream channel restoration approach to improve the fish passage also avoids retrofitting the existing slab associated with the Union Pacific Railroad (UPRR) bridge; i.e. no excavation near the bridge foundations. Water Quality certification issued by Central Coast Regional Water Quality Control Board (RWQCB) was received in April 2019, while permit from U.S. Army Corps of Engineers (USACE) and draft permit from California Department of Fish and Wildlife (CDFW) were received in early June 2019. The project was advertised for construction bids in the last quarter of FY19, but all three (3) submitted bids were rejected at the June 25, 2019, Board meeting. Two of the three bids received were non-responsive and the only responsive bid was more than double the engineer's estimate. In fall 2019, staff will return to the Board, seeking authorization to re-advertise for bids for project construction.
- Valley Water continues to coordinate with the City of San José on the Singleton Road Fish Passage Project on Coyote Creek. The city continues preparation of the design and CEQA documents for its bridge project and is seeking funding for design completion and construction. Valley Water continues to be prepared to support the fish passage barrier removal and natural stream restoration portion of the city's project by up to $1 million.
- Valley Water and the city continue to discuss an interim fish passage project at the site and Valley Water developed a design in FY19 that will result in an interim fish passage improvement project in advance of the city's long-term solution. If Valley Water and the city can achieve agreement on the interim project and CEQA and permits can be achieved in time, construction for the interim project can occur in fall 2020.

Progress on KPI #4:

Fish Habitat Improvements

The consultant contract to conduct a phase 2 study covering remaining steelhead streams including Llagas Creek, Pacheco Creek, Los Trancos Creek, San Francisquito Creek, Calero Creek and the Pajaro River was approved by the Board during the June 25, 2019, Board meeting. The study's initial tasks will be review of the relevant information and the refinement of selection criteria and tool developed during the phase 1 study. The study will recommend high-priority locations for future gravel augmentation/large woody debris placement

projects along the selected creeks; using selection criteria based on biological, geomorphic and flood risk consideration as well as site visits, to narrow down to final 14 recommended locations covering all six (6) creeks for improved design and adaptive management strategies.

Progress on KPI #5:

Fish Habitat Improvements

In June 2019, Valley Water began construction work on the Los Gatos Creek gravel augmentation/large woody debris placement project, which is located just downstream of Highway 17. Construction is expected to be completed in summer 2019. This project is being implemented under the SMP2 Permit while being funded by Safe, Clean Water Program. Staff is also exploring the option of utilizing external resource to implement future gravel augmentation and large woody debris placement projects for greater flexibilities knowing increasing demands on the internal maintenance staff resources.

Financial Information

In FY19, 59% of the annual project budget was expended.

The Almaden Lake Improvements Project (KPI #1) expended 50% of its annual budget. The project was under expended due to the reallocation of staff resources to another project at the end of FY18 to meet critical deadlines.

In FY18, Valley Water Board approved a budget adjustment to complete Ogier Ponds Planning Study (KPI #1). The project has expended 35% of the budget, as the Memorandum of Agreement with the County is yet to be completed.

The Construct Creek/Lake Separation project (KPI #2) has expended 0% of its FY19 budget because none of the projects have completed CEQA evaluation and design for the Board to decide which project will receive construction funding from the Safe, Clean Water Program.

The Fish Passage Improvements project (KPI #3) is under expended at 67% of its annual budget. The under expenditure was due to delay of the start of construction of the Bolsa Road Fish Passage Project resulting from a change in design. Project construction is expected to begin in spring 2020.

The Fish Habitat Improvement project (KPIs #4 and 5) expended 100% of its annual budget.

Financial Summary ($ Thousands) D4. Fish Habitat and Passage Improvements							
Fiscal Year 2018-2019						15-year Program	
Project No. and Name	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
		Actual	Encumbrance	Total			
26044002 Fish Passage Improvement	$1,592	$1,060	$0	$1,060	67%	$5,566	55%
26042002 Fish Habitat Improvement	$603	$247	$358	$605	100%	$5,828	33%
26044001 Almaden Lake Capital Project	$1,275	$636	$0	$636	50%	$31,039	11%
26044003 Ogier Ponds Planning Study	$1,000	$347	$0	$347	35%	$3,198	11%
Total	**$4,470**	**$2,289**	**$358**	**$2,647**	**59%**	**$45,631**	**19%**

Opportunities and Challenges

Schedule Adjustments

Site 1: Almaden Lake

On March 23, 2019, the Board approved a schedule adjustment for this project, extending the planning and design completion by one year to FY20. Planning and design for Almaden Lake was started in FY16 and was originally set to be completed in FY19. While planning was completed in FY18, additional time was required to complete the analysis for the lake water source and update the environmental document accordingly. This additional effort delayed release of the Administrative Draft environmental document and completion of design by one year.

Site 2: Ogier Ponds

On March 23, 2019, the Board approved setting the Ogier Ponds schedule with planning and design to be completed in FY23. This completion date is contingent on execution of a Memorandum of Agreement with the landowner, Santa Clara County Parks. The Board recommended moving the project into planning provided the landowner, Santa Clara County Parks, agreed to continue the partnership into the next phase of planning. During FY19, Valley Water continued working with County staff on such an agreement. Once the agreement is executed, the planning and design work will commence. The agreement has yet to be executed by the end of FY19. Therefore, it is likely that the planning study will be delayed beyond the previously projected FY23.

Resource Needs

Fish barrier mitigation and creek/lake separation projects will continue to require a high amount of resources to maintain the level of stakeholder engagement necessary for project success.

Fish Habitat Improvements

The placement of any additional gravel or large woody debris (LWD) structures has the potential to increase water surface elevation in a stream. One of the challenges for considering gravel and LWD additions for habitat improvements is that for channel reaches in a Federal Emergency Management Agency (FEMA)-designated regulatory floodway, any changes to the channel configuration must not increase the water surface elevation beyond existing condition, irrespective of the proximity to structures or bank elevations. This restriction may make the design and construction of habitat enhancement more difficult, requiring the production of a "No Rise" certification. This certification is often costlier as it will require more detailed hydraulic evaluation and may also require more earthwork to meet the "No Rise" certification standards.

Stevens Creek:

Stevens Creek provides habitat for the federally threatened steelhead trout. In FY18, Valley Water began a study to evaluate 32 potential fish passage barriers along 12.8 miles of Stevens Creek downstream of Stevens Creek Reservoir. The study, expected to be completed in summer 2019, will ascertain the degree to which these potential barriers impede movements of steelhead in the creek as well as determine the priority for addressing the impediments. Although not funded by the Safe, Clean Water Program, the study could inform future fish passage improvement project/s selected and funded by the Safe, Clean Water Program in D4 and grant funding opportunities as part of D3.

This study fills data gaps that were identified through the limiting factors analysis (LFA) for steelhead in Stevens Creek carried out in 2004 through Valley Water sponsorship in the Santa Clara County Urban Pollution Prevention Program. The objectives of the LFA were to identify and fill information gaps related to physical and biological factors controlling population dynamics for steelhead in Stevens Creek. It addressed six factors affecting steelhead populations and notable to this work, a fish barrier assessment. The LFA found that barriers both partial and complete limit access to a substantial amount of habitat and the effects of these barriers on smolt production depend on the ability of fish to pass barriers (upstream and downstream). The LFA had qualitatively identified 40 structural-related fish barriers for steelhead. Through field reconnaissance, this number has been reduced to 32. The degree to which these potential barriers impede movements of steelhead in Stevens Creek is largely unknown.

The FY18 quantitative assessment of fish barriers is intended to fill that data gap. Through a detailed analysis, each barrier will be assessed for passibility for both juvenile and adult fish and ranked to the degree of severity to which they impact fish passage.

Confidence Levels

Site 1: Almaden Lake

Schedule: Moderate confidence

In January 2019, a new project manager was assigned to the project to be able to focus on the scheduled milestones. While Valley Water is on track to complete the design phase, including developing a completed EIR, the

project may experience delays due to a high level of stakeholder engagement. Interested groups are requesting that Valley Water expand the project to address the Alamitos Drop Structure. As such, the project has the potential to encounter continuous issues and interest in its design.

Funding: High confidence

The Safe, Clean Water funding covers the cost of the planning and design phases.

Permits: N/A

The confidence level for permits will be determined if the Board selects the project to move forward with construction.

Jurisdictional Complexity: High confidence

Coordination with the City of San José is ongoing. This project is located on City of San José and Valley Water property and these entities have a longstanding partnership for the operation and maintenance of Almaden Lake and Almaden Lake Park.

Site 2: Ogier Ponds

Schedule: Low confidence

Valley Water does not own the property and cannot proceed with planning until the signing of a MOA with County Parks.

Funding: High confidence

The Safe, Clean Water funding covers the cost of the planning and design phases.

Permits: N/A

The confidence level for permits will be determined if the project moves past the planning phase.

Jurisdictional Complexity: Low confidence

The project has a high level of regulatory engagement as there are numerous listed species at the site. However, the fact that the project's primary objective is stream restoration, will reduce regulatory conflicts. Furthermore, the property is owned by County Parks, which has yet to sign the MOA. Valley Water cannot proceed without the participation of County Parks.

Bolsa Road Fish Passage Project

Schedule: High confidence

All work for the Bolsa Road Fish Passage project is within Valley Water's maintenance easement. Permission to Enter agreements with adjoining commercial properties were executed in May 2019 for contractor to access the project site safely on the south bank to avoid the busy traffic along Bolsa Road. Valley Water has received cooperation from the adjoining project neighbors.

Funding: High confidence

Project funding through FY20, with creek restoration construction being funded by project D6. An application of Wildlife Conservation Board Proposition 68 Grant was submitted in June 2019 for potential additional funding source.

Permits: High confidence

Valley Water has received all required environmental approvals from Central Coast Regional Water Quality Control Board (RWQCB), U.S. Army Corps of Engineers (USACE), National Marine Fisheries Service (NMFS) and California Department of Fish and Wildlife (CDFW).

Jurisdictional Complexity: High confidence

This project footprint was modified slightly to avoid encroaching UPRR right-of-way as the UPRR disagreed with Valley Water evaluation of the relatively non-adverse impact to drainage under the UPRR bridge.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Project D5

Ecological Data Collection and Analysis

This project creates a comprehensive watershed database that tracks stream ecosystem conditions to help Valley Water, other County agencies and organizations make informed watershed and asset management decisions. This new information integrates and enhances Valley Water's stewardship actions through a standardized, repeatable and defensible approach that guides, organizes and integrates information on stream conditions.

This ecological monitoring and assessment is conducted on an ongoing basis and is shared with land use agencies, environmental resource groups, and the public to support efficient restoration decisions throughout the county.

Benefits

- Improves watershed and asset management decisions
- Provides a systematic, scientific guide for decisions and actions to improve stream conditions
- Supports effective design options for capital projects
- Maximizes the impact of restoration dollars with more reliable data on countywide stream conditions

Key Performance Indicators (15-year Program)

1. Establish new or track existing ecological levels of service for streams in 5 watersheds.
2. Reassess streams in 5 watersheds to determine if ecological levels of service are maintained or improved.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET

Valley Water biologists at Saratoga Creek.

ON TARGET

Project D5 FY19 Highlights

- West Valley watershed assessment report completed.
- Assessed five (5) watersheds to complete KPI #1 with reports linked on the D5 web page and results available on EcoAtlas.
- Assisted the One Water Plan with metrics to assess ecosystem conditions.

Status for FY19: ON TARGET

Progress on KPI #1: *(Completed in FY18)*

- In FY18, Valley Water completed field work to establish the existing ecological levels of service for the West Valley watershed, which was the fifth and final watershed to be assessed for the first time, thus completing KPI #1.

- In FY19, Valley Water with the San Francisco Estuary Institute (SFEI) completed the West Valley watershed assessment report (see the Project D5 web page: https://www.valleywater.org/project-updates/d5-ecological-data-collection-and-analysis). Results of all the D5 field assessments, measures of other creek reaches using the California Rapid Assessment Method (CRAM), and more information are available on EcoAtlas (see https://www.ecoatlas.org/regions/ecoregion/bay-delta, click on CRAM under the Legends drop down command, then zoom to desired locations on the map).

- Valley Water has measures of baseline ecosystem conditions, represented by ecological service index (ESI) scores to established levels of service for five (5) of the five (5) watersheds as required under this KPI, as well as for 10 tributary creeks in the watersheds (see Figures D5-1 through D5-3). The assessments include:

    1. Coyote Creek watershed, including Upper Penitencia Creek;

    2. Guadalupe River with a separate ESI for urban and non-urban portions of the watershed;

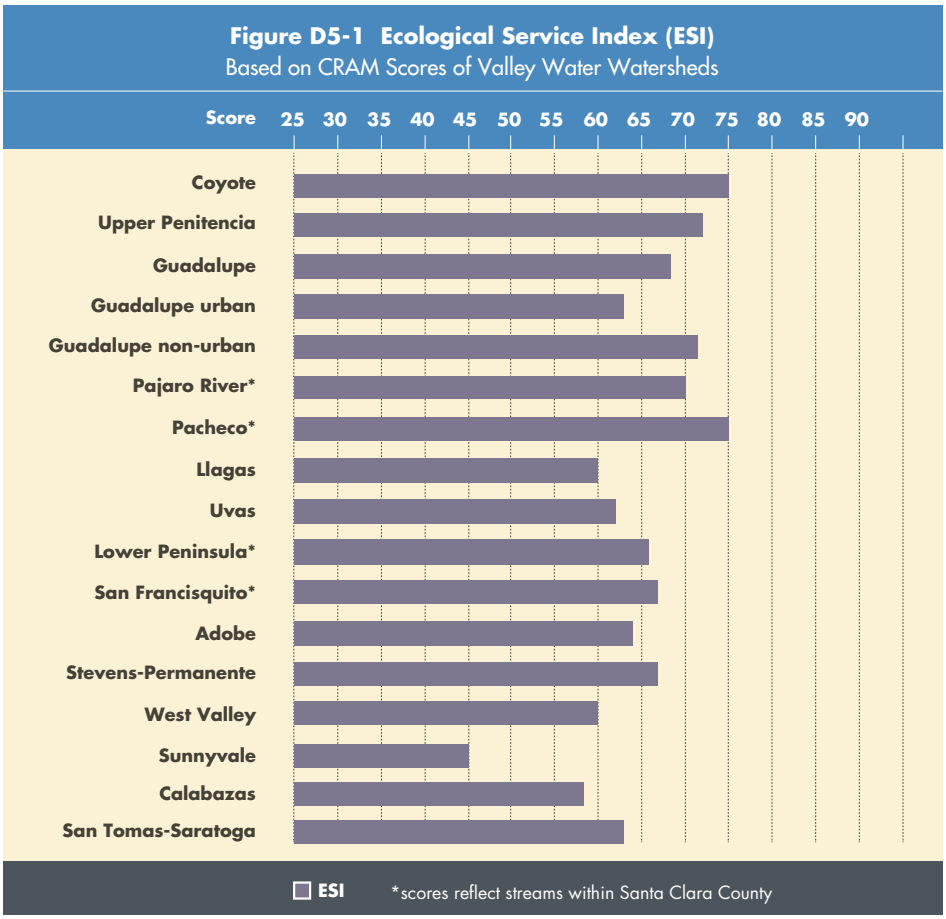
    3. Pajaro River watershed within Santa Clara County, including Pacheco, Uvas, and Llagas creeks;

    4. Lower Peninsula watershed, including San Francisquito Creek within Santa Clara County, Adobe, and Stevens-Permanente creeks; and

    5. West Valley watershed with Sunnyvale, San Tomas-Saratoga, and Calabazas creeks.

- The reports for these assessments are available on the Project D5 web page (see https://www.valleywater.org/project-updates/d5-ecological-data-collection-and-analysis) and on the San Francisco Estuary Institute (SFEI) web page (see http://www.sfei.org/projects/santa-clara-valley-water-districts-watershed-condition-assessments#sthash.yyRANCI2.dpbs). Assessment data collected from the watersheds are available on EcoAtlas (see http://www.ecoatlas.org/regions/ecoregion/bay-delta).

Figure D5-1 - Bar chart comparing ESI scores of Valley Water's five (5) watersheds and select creeks.



Progress on KPI #2:

As noted above, five (5) watersheds have been assessed with results available on EcoAtlas, and five (5) watershed reports are on the Project D5 and SFEI's web pages. The D5 study plan to achieve KPI #2 is to reassess each watershed on a 10-year cycle: Coyote Creek in 2020, Guadalupe River in 2022, Pajaro River in 2025, Lower Peninsula in 2026, and West Valley in 2028. According to the current 5-Year Implementation Plan, Coyote Creek and Guadalupe River watersheds reassessment will be conducted during FY19-23.

- Watershed studies, assessments or data compiled by others are shown under Reports & Documents on the Project D5 web page. The ecological conditions in Santa Clara County watersheds can be compared to other studies and results throughout California.

Financial Information

In FY19, 32% of the annual project budget was expended.

The FY19 budget included hours, services and supplies to complete the West Valley watershed assessment report. Valley Water also contributed to the One Water Plan to develop targets and metrics for its objectives using CRAM, and the Coyote watershed assessment data. Less funding was necessary in FY19 compared to fiscal years when field work is being organized, conducted and data processed. Project D5 does not have consistent spending year to year, but cycles between high and low years depending on when watersheds are assessed. Fiscal year 2020 will see high spending with the Coyote Creek watershed reassessment, among the largest County watersheds along with the Pajaro.

Financial Summary ($ Thousands)
D5. Ecological Data Collection and Analysis

Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$890	$282	$0	$282	32%	$9,020	26%

Opportunities and Challenges

Watershed approach to environmental permitting, impact assessments, and mitigation

Valley Water is integrating Project D5 into watershed planning, One Water and its related work. Furthermore, with expert advice from SFEI, Valley Water's goal is to apply Project D5 results to assist in environmental permitting. The USACE South Pacific Division issued guidance in 2015 and has standard operating procedures to use the CRAM for impact assessment and mitigation. Guidance applies to both the USACE San Francisco and Sacramento Districts. The Project D5 ambient watershed assessments continue to be influential to the State Water Resources Control Board's (SWRCB) evolving wetland and riparian habitat policy efforts, and implementing the newly adopted Procedures for Discharges of Dredged or Fill Material to Waters of the State. Valley Water is a member of the SWRCB mitigation planning technical advisory committee (TAC).

One Water uses CRAM metrics and D5 results to set future ecological level of service goals, giving Valley Water and stakeholders targets for improving watershed health, as well as CRAM measures to assess watershed health over time. Valley Water is consolidating environmental data and results into a comprehensive database. With existing environmental data including CRAM results, Project D2 and SMP invasive and non-native vegetation mapping, hydrologic and geomorphologic conditions, historical ecology and EcoAtlas resources, Valley Water is developing a computer analytical tool to recommend projects, activities and actions to improve channel and ecosystem conditions on Coyote Creek.

Landowner coordination

Valley Water needs the assistance and cooperation of landowners, resource agencies, environmental organizations and citizen groups to maintain healthy ecosystems. Valley Water owns approximately 2% of the Lower Peninsula watershed, 3% of the Coyote and Pajaro watersheds, 8% of the Guadalupe watershed, and 15% of the West Valley watershed. Most of Valley Water's land is significantly below the headwaters, primarily in the valley with large tracts adjacent to the reservoirs. It is essential to work cooperatively with other landowners and create partnerships and agreements to affect ecological uplift and improve watershed health.

Valley Water must receive permission to access and collect data from private landowners and some public agency lands prior to conducting field work. The process to request and be granted rights to enter takes a substantial amount of planning and time. Fortunately, the vast majority of private and public landowners respond positively, allowing Valley Water teams access to conduct the Project D5 assessments.

Project D6

Creek Restoration and Stabilization

This project will use geomorphic data to design and construct projects to increase the stability of eroding creek banks and help restore the natural functions of stream channels. Possible work may include the removal of Comer Debris Basin on Calabazas Creek in Saratoga, and activities to reduce and prevent incision and promote sediment balance in Stevens and Uvas creeks.

Benefits

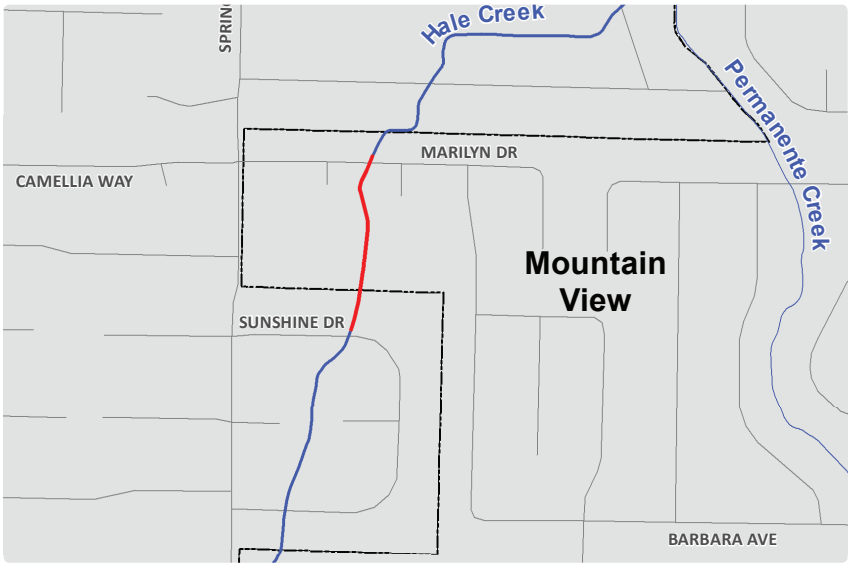
- Uses scientific principles to restore sediment balance and reduce erosion, instability and sedimentation in creeks
- Helps restore stream functions and improves recharge capacity of channels by decreasing sedimentation
- Protects roads from damage caused by eroding channel banks
- Reduces annual maintenance cost for sediment removal

Key Performance Indicator (15-year Program)

1. Construct 3 geomorphic designed projects to restore stability and stream function by preventing incision and promoting sediment balance throughout the watershed.

Geographic Area of Benefit: Countywide

Project Location



Legend

- Hale Creek Project Location
- Santa Clara County Cities

Rendering of the Hale Creek pilot project's natural channel design.

ADJUSTED

Project D6 FY19 Highlight

Site 1: Hale Creek Enhancement Pilot Project

- Continued work on finalizing the 90% plans and specifications as part of the design process and began work on obtaining regulatory permits.

Site 2: Bolsa Road Fish Passage Project

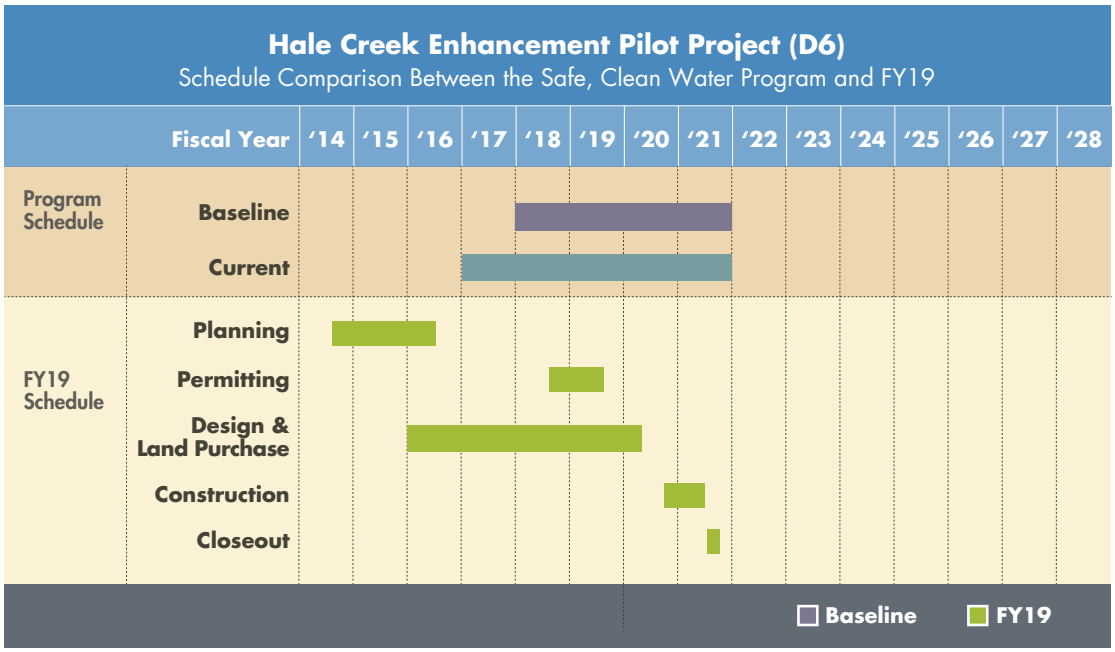
- Began working on the design process and completed 100% plans and specifications.

Site 3: Los Gatos Creek Restoration Project

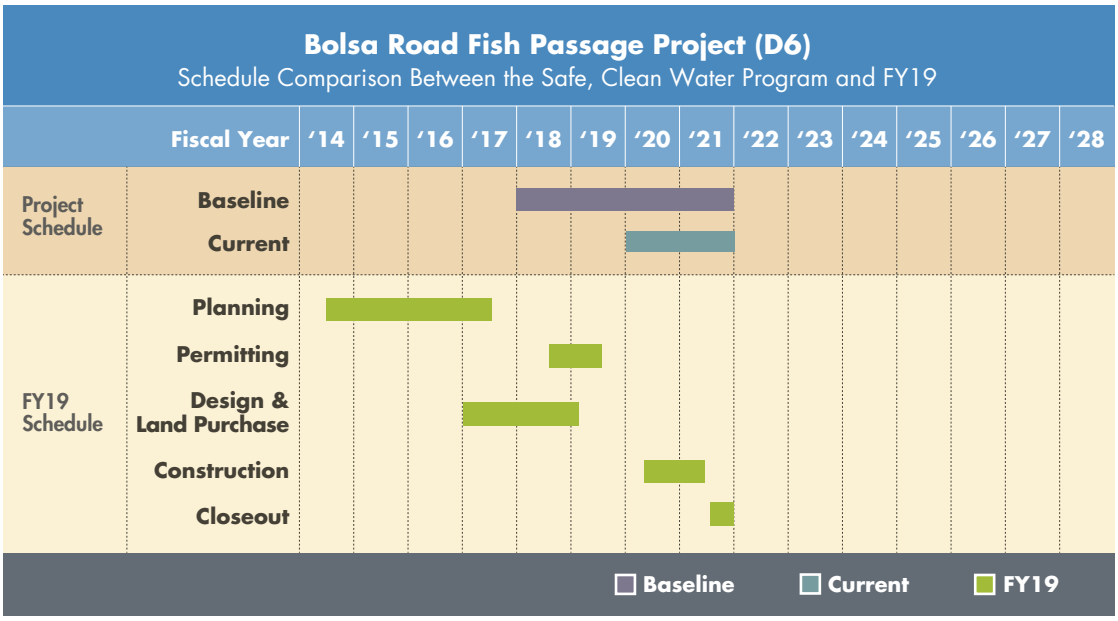
- Identified as a possible candidate for this Safe, Clean Water Priority.

Schedule

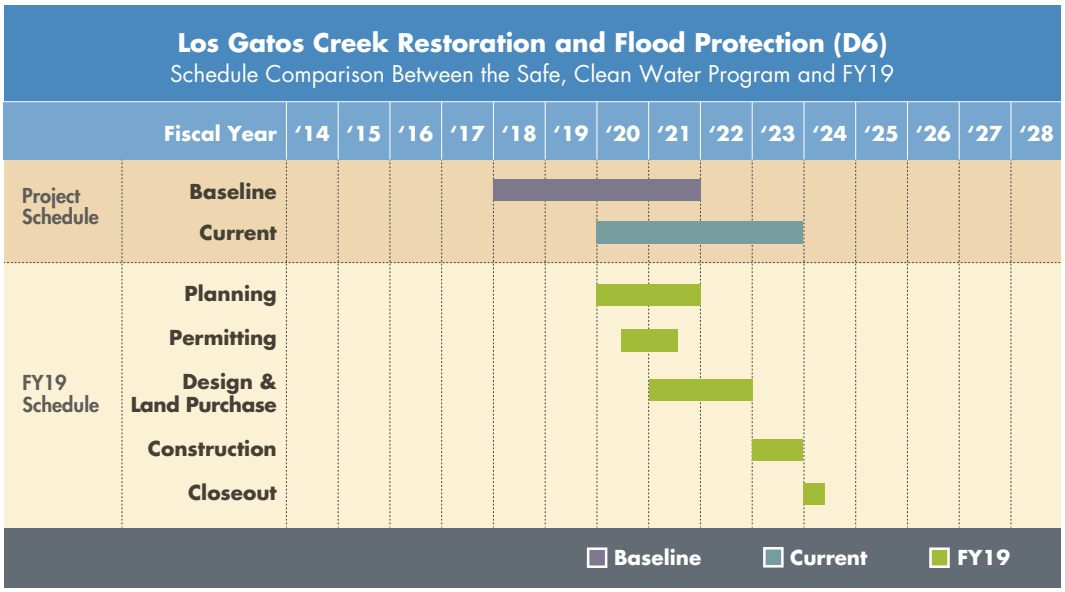
Site 1: Hale Creek Enhancement Pilot Project



Site 2: Bolsa Road Fish Passage Project



Site 3: Los Gatos Creek Restoration and Flood Protection Project



[1] Board approved schedule adjustment through the change control process in FY19.

Status History

Fiscal Year	Status
FY 14	SCHEDULED TO START
FY 15	SCHEDULED TO START
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET

Status for FY19: ADJUSTED (Schedule Adjustment)

Progress on KPI #1:

- In FY16, Valley water selected the Hale Creek Enhancement Pilot Project as the first of three (3) geomorphic designed projects to be constructed.
- In FY19, Valley Water selected the Bolsa Road fish passage project on Uvas Creek; and the
- Los Gatos Creek stream restoration project in downtown San José as the remaining 2 (two) projects under the Safe, Clean Water Project D6.

Site 1: Hale Creek Enhancement Pilot Project

- The first of the geomorphic designed projects is the Hale Creek Enhancement Pilot Project, which includes restoration and stabilization of a 650-foot section of concrete-lined channel on Hale Creek, between Marilyn Drive and North Sunshine Drive on the border of Mountain View and Los Altos. In coordination with the San Francisco Bay Regional Water Quality Control Board (RWQCB), this project has been prioritized and selected for a pilot study to restore geomorphic creek features in a confined urbanized setting. In FY19, Valley Water continued working on the 90% plans and specifications as part of the design process. The design documents are

expected to be completed by the end of 2019. For detailed information about the geomorphology and project design, view the Hale Creek Enhancement Pilot Project planning study memo online: https://www.valleywater.org/sites/default/files/Hale_Creek_Planning_Memo_022516LN-.pdf

Site 2: Bolsa Road Fish Passage Project

- This project was originally planned and designed as one of the fish passage improvement projects under Project D4. While the project maintains its fish passage benefits, as a result of consultations with in-house fisheries biologists and environmental planners as well as the regulatory permitting agencies, the project design was changed to include geomorphic design features that will restore stability and stream function. In response, the Board approved funding construction through Project D6 Creek Restoration and Stabilization.
- The Bolsa Road Fish Passage Project consists of installation of a gradually sloped riffle-pool stream complex along approximately 1,700 linear feet of Uvas-Carnadero Creek in unincorporated Santa Clara County, just south of Gilroy. The purpose of the project is to restore the stream invert due to decades of channel incision and base lowering and to steadily elevate the stream over existing fish passage barriers including a Union Pacific Railroad (UPRR) crossing support slab as well as a dysfunctional Denil fish ladder that was previously installed to bypass the UPRR crossing. In FY19, the Valley Water began working on the design process and completed 100% plans and specifications. For detailed information about the geomorphology and project design, view the Bolsa Road Fish Passage Improvement Project Basis of Design report online: https://fta.valleywater.org/dl/l5mWtD1dUI/
- San Francisco Bay Regional Water Quality Control Board (RWQCB) issued a Water Quality certification on April 26, 2019, California Department of Fish and Wildlife (CDFW) issued a Draft Streambed Alteration Agreement on June 5, 2019, and U.S. Army Corp of Engineers (USACE) issued a permit on June 6, 2019.
- The project was advertised for construction bids in the last quarter of FY19, but all three (3) submitted bids were rejected at the June 25, 2019, Board meeting. Two of the three bids received were non-responsive and the only responsive bid was more than double the engineer's estimate. In fall 2019, staff will return to the Board, seeking authorization to re-advertise for bids for project construction. Project construction is expected to begin in spring 2020.

Site 3: Los Gatos Creek Restoration Project

- In FY19, Los Gatos Creek Restoration Project was identified as a possible candidate for this Safe, Clean Water Priority. A preliminary feasibility outlook shows that considerable involvement with local landowners is necessary to move this project forward. Local landowners approached Valley Water with a desire to improve the creek and a possibility of assisting in the funding and development of this project. At this point, there is still significant uncertainty associated with the project. The local landowner is evaluating alternatives and Valley Water will subsequently assess eligibility for D6 funding.
- Valley Water has identified internal resources for this project and is ready to evaluate this opportunity if stakeholders are in agreement.

Financial Information

Site 1: Hale Creek Enhancement Pilot Project

In FY19, 10% of the annual project budget was expended.

The under-expenditure is because staff resources were shared with the Permanente Creek Flood Protection Project to support the construction phase. Work on the Hale Creek Enhancement Pilot Project has resumed with a new project team. Much of the FY19 project budget was for construction, which is now scheduled for summer 2020.

Financial Summary ($ Thousands)
D6. Hale Creek Enhancement Pilot Project

Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$2,604	$273	$0	$273	10%	$18,475	7%

Site 2: Bolsa Road Fish Passage Project

Since the planning and design for this project was carried out under D4 Fish Habitat and Passage Improvement, there was no FY19 budget for the project under D6 Creek Restoration and Stabilization. However, the project construction will be funded by D6 as per the Board's decision in FY19. Project construction is expected to begin in spring 2020.

Site 3: Los Gatos Creek Restoration Project

In FY19, there was no budget for the Los Gatos Creek Restoration Project because it had not been identified as a possible project under this priority. Once the project was identified as a possible candidate for D6, a project number was created and a budget was established for work to begin in FY20.

Opportunities and Challenges

Confidence Levels

Site 1: Hale Creek Enhancement Pilot Project

Schedule: Moderate confidence

This section of Hale Creek is bordered by seven (7) private residential properties and a church parking lot. The ability to resolve potential mis-aligned fences and obtain the necessary temporary easements for construction will be critical for project success. Valley Water conducted outreach to the project neighbors and continues to work with them.

Funding: High confidence

Project funding has been secured through the Safe, Clean Water Program.

Permits: High confidence

Since Valley Water is coordinating with the RWQCB on this project, permit acquisition is expected to be a smooth process for this stream restoration project.

Jurisdictional Complexity: Moderate confidence

This project is on the border of Mountain View and Los Altos, and both cities have been supportive of the project. The work is being done on existing Valley Water right-of-way and easements, and additional temporary construction easements will be required to build the project from adjacent property owners. Furthermore, PG&E overhead electric lines cross and run along the creek in several locations. Valley Water continues to coordinate with PG&E to ensure this project can be constructed while minimizing impacts to utility services to adjacent residents.

Site 2: Bolsa Road Fish Passage Project

Schedule: High confidence

All work items for the Bolsa Road Fish Passage project are within Valley Water's maintenance easement. Permission to Enter agreements with adjoining commercial properties were executed in May 2019 for contractor to access the project site safely on the south bank to avoid the busy traffic along Bolsa Road. Valley Water has received cooperation from the adjoining project neighbors.

Funding: High confidence

Project funding through FY20 has been secured through the Safe, Clean Water Program.

Permits: High confidence

Valley Water has received permits from RWQCB and USACE. CDFW has issued the Draft Streambed Alteration Agreement and is considering the Final Streambed Alteration Agreement for the project.

Jurisdictional Complexity: High confidence

This project footprint was modified slightly to avoid encroaching UPRR right-of-way as the UPRR disagreed with Valley Water evaluation of impact to drainage under the UPRR bridge.

Site 3: Los Gatos Creek Restoration Project

Schedule adjustment

In FY19, the Board approved schedule adjustment for this project, extending the completion date to FY23. The project is dependent on a partnership with a private sponsor, who will be funding design and providing land rights for the project. As a result of this partnership, the schedule will likely be subject to variables that are beyond Valley Water's control. Since the original project schedule was set on March 27, 2019, further discussions with the private partner require that the schedule be adjusted to accurately reflect the estimated timeline.

Commitment from Stakeholders

Discussions are still ongoing with local landowners and the City of San José on how this project might move forward.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Project D7

Partnerships for the Conservation of Habitat Lands

Funding from this project helps the community acquire important habitat land to preserve local ecosystems. The project supports implementation of the Valley Habitat Plan, a multi-agency agreement that pools mitigation dollars to purchase large areas of habitat land for conservation.

Coyote Ceanothus Plant.

ON TARGET

Project D7 FY19 Highlights

- In July 2019, the Board approved transfer of $8 million to Valley Habitat Agency to fund acquisition of property contributing to the conservation goals and mitigation requirements for the endangered Coyote ceanothus.

Benefits

- Fulfills a portion of Valley Water's acre allocation to the Valley Habitat Plan
- Protects, enhances and restores natural resources in Santa Clara County
- Contributes to the recovery of special status species
- Coordinates regional mitigation projects to create larger, less fragmented conservation lands that are more beneficial for wildlife and the environment
- Provides for endangered species and wetlands mitigation for future water supply and flood protection projects

Key Performance Indicator (15-year Program)

1. Provide up to $8 million for the acquisition of property for the conservation of habitat lands.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET

Status for FY19: ON TARGET

Progress on KPI #1:

- The partnership agreement with the Santa Clara Valley Habitat Agency (VHA) was fully executed January 2019 and included criteria for the allocation of partnership funding for the conservation of habitat lands. The agreement provides up to $8 million to fund the purchase of preserve areas.
- The VHA has been evaluating potential land acquisitions needed to meet Habitat Plan conservation objectives and has identified a high-priority land acquisition that meets the land acquisition criteria and has the required

species habitat of Coyote ceanothus, which provides coverage for the Anderson Dam Seismic Retrofit Project. The land acquisition would utilize the full $8 million allocation and is scheduled for to go to the Board for approval in the beginning of FY20. If the Board approves the transfer of funds through the funding agreement for acquisition of the property, the KPI will be met and Project D7 will be considered completed.

Financial Information

In FY19, 101% of the annual project budget was expended.

Financial Summary ($ Thousands)
D7. Partnership for the Conservation of Habitat Lands

Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$1,000	$10	$1,000	$1,010	101%	$10,524	10%

Opportunities and Challenges

Valley Habitat Plan

The Valley Habitat Plan provides 50-year permits, issued in July 2013, for incidental take of endangered species to the 'co-permittees'--Valley Water, Santa Clara County and the cities of San José, Gilroy and Morgan Hill--for public and private projects. The Habitat Plan sets fees to compensate for impacts to species resulting from permitted projects. The funds are used by the VHA to acquire preserve areas which are managed to meet the Habitat Plan conservation strategy developed to meet the requirements specified by the federal Endangered Species Act (ESA), the Natural Communities Conservation Plan per the California Natural Conservation Planning Act (NCCP) and the California Endangered Species Act (CESA).

The VHA was established in May 2013, to implement the Habitat Plan under a Joint Powers Authority between Santa Clara County and the cities of San José, Gilroy, Morgan Hill and Valley Water.

To fulfill plan requirements, the VHA has been evaluating lands for acquisition as preserve areas, and is looking to find partners. The Anderson Dam Seismic Retrofit is a high priority project that is covered by the Habitat Permit. When the retrofit was evaluated for anticipated impacts, a key issue was the presence of the federally listed endangered Coyote Ceanothus, a white-flowered shrub that is only found in three locations in Santa Clara County. The largest population of Coyote Ceanothus grows at Anderson Reservoir and will be impacted by the removal of the dam, resulting in removal of a large population of the plants growing on and near the dam. As a result, the Habitat Permit requires that a new population of plants be created or protected through a direct purchase of land or through a conservation easement. The criteria for funding partnerships with the VHA are based on this and other elements in the Valley Habitat Plan.

Process development

The partnership agreement with the Santa Clara Valley Habitat Agency (VHA) was fully executed January 2019. A copy of the agreement can be found on the Valley Water website for D7 located here: https://www.valleywater.org/project-updates/d7-partnerships-conservation-habitat-lands

Project D8

South Bay Salt Ponds Restoration Partnership

This project reuses local sediment from streams flowing into San Francisco Bay to create and rehabilitate habitat in the South Bay Salt Ponds Restoration. Valley Water reuses sediment that has to be removed from streams to maintain their capacity to carry floodwaters. In partnership with the U.S. Fish and Wildlife Service (FWS), clean sediment is applied to appropriate locations to improve the success of the South Bay Salt Ponds Restoration effort.

Benefits

- Accelerates progress of an important tidal wetland restoration project
- Reduces disposal costs for sediment that has been removed from local channels to maintain flood carrying capacity
- Increases space availability in local landfills

Key Performance Indicators (15-year Program)

1. Establish agreement with FWS to reuse sediment at locations to improve the success of Salt Pond restoration activities.
2. Construct site improvements up to $4 million to allow for transportation and placement of future sediment.

Geographic Area of Benefit: Countywide

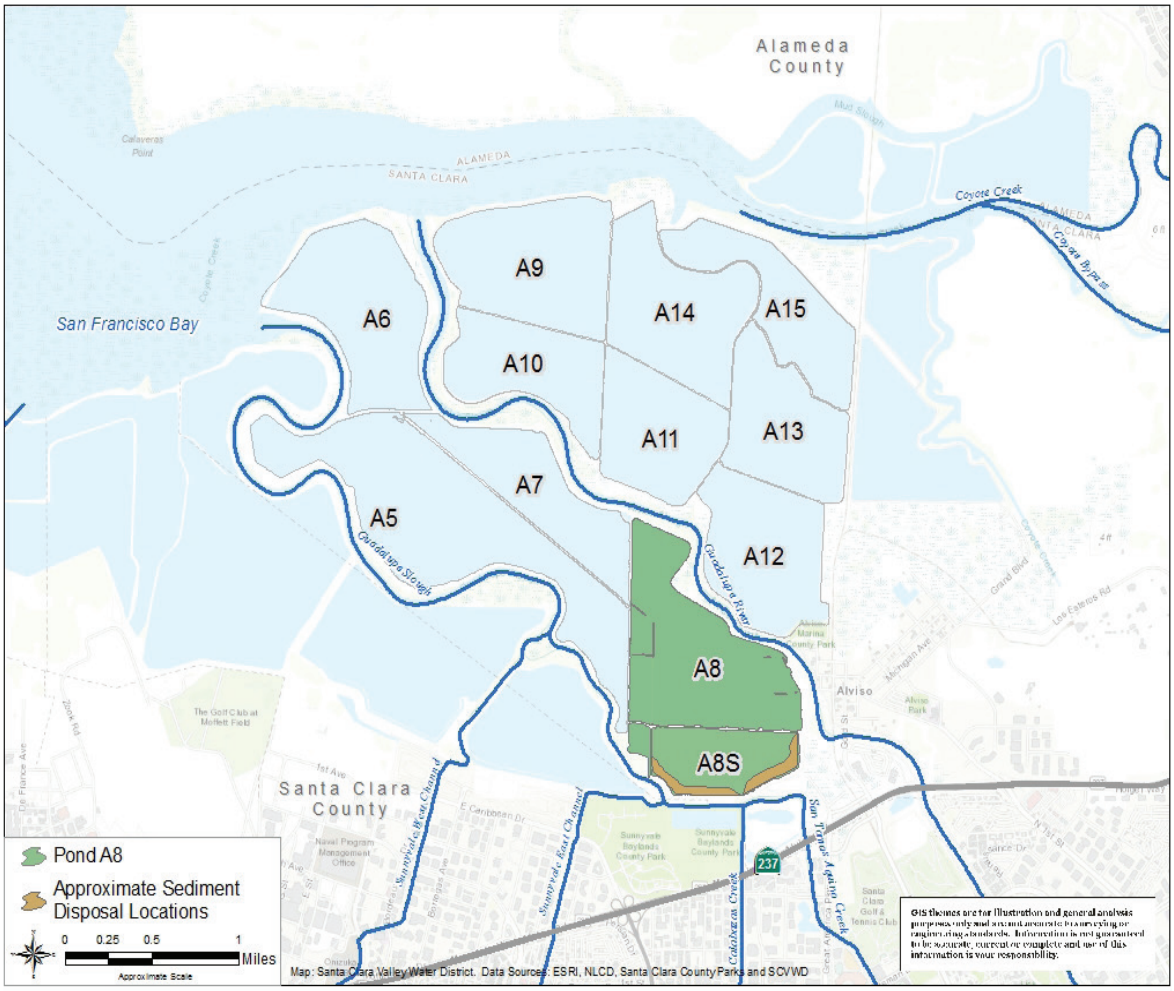
Sediment delivery to Pond A8.

ON TARGET

Project D8 FY19 Highlights

- Signed a new agreement with USFWS to replace the initial agreement signed in March 2014.
- Added approximately 6,360 cubic yards of soil to the existing 10:1 slope at Pond A8 to protect the clay liner of the former landfill.

Project Location



Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ADJUSTED
FY 18	ON TARGET

Status for FY19: ON TARGET

Progress on KPI #1: *(Completed in FY14)*

- In May 2019, Valley Water signed a new agreement with USFWS to replace the initial agreement that was signed in March 2014.

Progress on KPI #2:

- During September and October of 2018, the Stream Maintenance Program (SMP) crew added 6,400 cubic yards of soil to the existing 10:1 slope at Pond A8 to protect the clay liner of the former landfill as well as support future 30:1 slope ecotone, gentle slope that will be a good substrate for marsh vegetation to grow.

Financial Information

In FY19, 93% of the annual project was expended, with $854 remaining.

Financial Summary ($ Thousands)
D8. South Bay Salt Ponds Restoration Partnership

Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$12	$11	$0	$11	93%	$4,513	6%

Opportunities and Challenges

Coordination with Project E1.2: Sediment Removal for Capacity

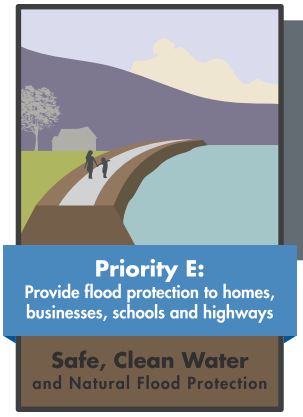
To the extent possible, Valley Water coordinates its sediment removal activities, funded in part by Sub-Project E1.2, with Project D8: South Bay Salt Ponds Restoration Partnership. More specifically, removed sediment that meets specific re-use criteria is delivered to USFWS-owned Pond A8 to provide suitable substrate (e.g. dirt, gravel, sand, etc.) on which marsh vegetation can grow.

Habitat Improvement

This project provides an important opportunity to assist with the South Bay Salt Pond Restoration Program. The sediment is being used to construct a broad, gentle slope that will increase marshland acreage that absorbs energy during storm surges providing resilient flood protection and protects adjacent property, a former landfill from erosion, while providing habitat for many wetland species. After the slope is constructed, Valley Water will partner with San Francisco Bay Bird Observatory to revegetate the site with diverse, native species.

New Site Development

In partnership with USFWS, Valley Water will continue to explore opportunities in developing new access paths to beneficial sediment re-use locations in other ponds.



Priority E

Provide Flood Protection to Homes, Businesses, Schools and Highways

Flood protection measures under Priority E include capital construction projects, studies of flood prone areas, maintenance of existing flood protection channels and improvements to emergency planning for flood response.

Flood protection capital projects are prioritized to protect the largest number of people, homes and businesses, as well as safeguard the highways, streets, public transportation and business centers that people depend on for their livelihoods. At every opportunity, Valley Water takes a multi-benefit approach to flood protection projects, which includes incorporating water quality, water supply, environmental stewardship, and recreational enhancement benefits.

All the construction projects under Priority E are undertaken in partnership with the federal government, and will require federal funding in addition to local funding to complete the preferred scope. Should federal funding become scarce, a reduced scope would be implemented, as described in the individual project summaries.

Whenever possible, Valley Water also leverages funds from the state, local municipalities and other stakeholders.

Project E1: Vegetation Control and Sediment Removal for Flood Protection
Project E2: Emergency Response Planning
Project E3: Flood Risk Reduction Studies
Project E4: Upper Penitencia Creek Flood Protection
Coyote Creek to Dorel Drive – San José
Project E5: San Francisquito Creek Flood Protection
San Francisco Bay to Middlefield Road – Palo Alto
Project E6: Upper Llagas Creek Flood Protection
Buena Vista Avenue to Wright Avenue – Morgan Hill, San Martin, Gilroy
Project E7: San Francisco Bay Shoreline Protection
Milpitas, Mountain View, Palo Alto, San José, Santa Clara and Sunnyvale
Project E8: Upper Guadalupe River Flood Protection
Highway 280 to Blossom Hill Road – San José

Vegetation control for capacity on Golf Creek.

ON TARGET

Project E1 FY19 Highlights

- Maintained 91.9% of improved channels at design capacity.
- Completed 1,096 acres of in-stream vegetation management on 153 miles of streams countywide.
- Completed 15 sediment removal projects, removing 18,164 cubic yards of sediment to maintain design capacity.
- Completed 2,864 acres of upland vegetation management.

Project E1

Vegetation Control and Sediment Removal for Flood Protection

This project supports Valley Water's ongoing vegetation control and sediment removal activities that reduce flood risk by maintaining design flow conveyance capacity of flood protection projects. These activities also provide access for maintenance personnel and equipment. The project includes: controlling in-stream vegetation growth, removing sediment at appropriate intervals, removing trees, and performing weed abatement and pruning to provide maintenance access and establish firebreaks. Before carrying out maintenance activities, Valley Water personnel perform biological pre-construction surveys to minimize environmental impacts. Allocations for Project E1 also helps fund future maintenance of flood protection projects completed under the Safe, Clean Water program.

This project is comprised of 4 sub-projects that support Valley Water's ongoing vegetation control and sediment removal activities. These sub-projects are:

E1.1 Vegetation Control for Capacity

E1.2 Sediment Removal for Capacity

E1.3 Maintenance of Newly Improved Creeks

E1.4 Vegetation Management for Access

Benefits

- Ensures that existing flood protection projects continue to provide maximum flood protection
- Provides safe access for maintenance of creek channels
- Reduces fire risk along creeks and maintains compliance with fire codes
- Improves water quality

Key Performance Indicators (15-year Program)

1. Maintain 90% of improved channels at design capacity.
2. Provide vegetation management for 6,120 acres along levee and maintenance roads.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET

Status for FY19: ON TARGET

Progress on KPI #1:

- In FY19, 92% of improved channels were maintained at design capacity. Improved channels are those channels where Valley Water has fee or easement land rights and which have been modified for flood protection purposes. This percentage is based upon identification of sediment and vegetation that compromise the flow conveyance capacity of channels. This identification occurs through routine maintenance inspections, following operations and maintenance manuals, and review of as-built plans and specifications.

Valley Water continued to update maintenance guidelines, which will provide improved thresholds for sediment removal and vegetation management. These updated guidelines will better inform the inspection and maintenance process for Valley Water's flood protection assets. By the end of FY19, Valley Water had completed 17 guidelines. Another 12 guidelines are on schedule to be completed in FY20, and Valley Water is currently on-track to complete or update 40 guidelines by 2023.

E1.1 Vegetation Control for Capacity

Completed 1,096 acres of in-stream vegetation management to reduce flood risk on 153 miles of streams throughout the county using an integrated combination of mechanical, grazing, hand labor and herbicide methods (Graph E1.1).

E1.2 Sediment Removal for Capacity

Completed 15 sediment removal projects, removing 18,164 cubic yards (CY) of sediment to maintain design capacity (Graph E1.2). The Safe, Clean Water Program funds 14% of this work. The following page contains a table showing the quantities of sediment removed from each watershed/creek.

Watershed	Creek	Sediment removed (CY)
Lower Peninsula	Permanente Diversion Channel	1,503
Lower Peninsula	Permanente Creek	10
Lower Peninsula	Barron Creek	160
Lower Peninsula	Adobe Creek	4,648
Lower Peninsula	Matadero Creek	3,000
Guadalupe	Golf Creek	105
Guadalupe	Ross Creek (3 projects)	37
Coyote	Lower Silver Creek (2 projects)	2,925
Coyote	Quimby Creek	490
Coyote	Berryessa Creek	2,660
Uvas/Llagas (Pajaro)	Llagas Creek	1,478
Uvas/Llagas (Pajaro)	Lions Creek	1,148
TOTAL:		**18,164**

E1.3 Maintenance of Newly Improved Creeks

Sub-Project E1.3 Maintenance of Newly Improved Creeks has $19.1 million identified in the original 15-year plan, as shown in the financial summary, to ensure funding is available for future maintenance work. This item is unique because the $19.1 million is a placeholder, set aside in anticipation of future maintenance work that will be required. As Safe, Clean Water flood protection capital improvement projects are completed and become "newly improved creeks," these projects move into the maintenance phase. In FY19, Valley Water created two new project numbers for maintenance of newly improved creeks, one for sediment removal for capacity and the other for vegetation control for capacity. Work on both projects will begin in FY20.

Progress on KPI #2:

E1.4 Vegetation Management for Access

- Completed 2,863.83 acres of upland vegetation management to maintain access and provide fire protection using an integrated combination of mechanical, grazing, hand labor and herbicide methods. Of this total acreage, 15% of the completed work was funded by Safe, Clean Water for a total of 429.57 acres towards the 15-year goal of 6,120 acres. (Graph E1.3)
- During the first six (6) years of the Safe, Clean Water Program, Valley Water managed a cumulative total of 2,736.57 acres of vegetation, compared to a 6-year target of 2,448 acres.

Financial Information

E1.1 Vegetation Control for Capacity

In FY19, 116% of the annual project budget was expended.

The over-expenditure occurred because with adequate vegetation management staff, Valley Water was able to complete significantly more projects and meet the current work load for the first time in many years.

Financial Summary ($ Thousands) E1.1. Vegetation Control for Capacity						
Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$1,567	$1,790	$25	$1,815	116%	$24,571	28%

E1.2 Sediment Removal for Capacity

In FY19, 47% of the annual project budget was expended.

In FY19, the budget was increased to haul off soil from a site deemed outside of a capital project construction area. The purpose was to carry out the work under SMP, but later it was determined that the off-haul could not be done under the SMP program and the funds were not utilized. Additionally, a portion of the sediment removed was delivered to Pond A8 for reuse under Project D8: South Bay Salt Ponds Restoration Partnership, thus reducing the sediment disposal cost. Furthermore, as is the case each year, the extent to which sediment removal is conducted can vary depending on weather conditions, regulatory approvals and demand for staff resources on other projects. Valley Water anticipates that it will continue to be able to meet KPI #1 throughout the duration of the Safe, Clean Water Program.

Financial Summary ($ Thousands) E1.2. Sediment Removal for Capacity						
Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$990	$428	$42	$470	47%	$9,848	31%

[1]The total amount is different than the sum of the actual and encumbrance amounts due to rounding.

E1.3 Maintenance of Newly Improved Creeks

N/A – "Newly improved creeks" are those creeks for which either a Safe, Clean Water flood protection capital improvement project or a Clean, Safe Creeks (CSC) flood protection capital improvement project has been completed and turned over to Valley Water's Watersheds Operations and Maintenance Division (Watersheds O&M). One CSC flood protection capital improvement project – Calabazas Creek Flood Protection, Miller Avenue to Wardell Road – has been completed and turned over to Watersheds O&M. CSC project Berryessa Creek Flood Protection, a portion of CSC project Permanente Creek Flood Protection, and a portion of Safe, Clean Water Project E5, San Francisquito Creek Flood Protection, were completed in FY19 and are anticipated to be turned over to Watersheds O&M in FY20 or FY21. As no maintenance work was conducted on newly improved creeks in FY19, no expenditures have been made from the $19.1 million identified in the original 15-year plan.

E1.4 Vegetation Management for Access

In FY19, 116% of the annual project budget was expended.

Upland vegetation management costs were high during the year due to the late season rains which continued into June 2018. As a result, weed abatement work that was conducted in March–June had to be done again in the July–October timeframe to ensure fire code compliance, resulting in unanticipated costs.

Financial Summary ($ Thousands)
E1.4. Vegetation Management for Access

Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total[1]			
$476	$549	$5	$555	116%	$6,156	42%

Opportunities and Challenges

Coordination with Project D8: South Bay Salt Ponds Restoration Partnership

To the extent possible, Valley Water coordinates its sediment removal activities, funded in part by Sub-Project E1.2, with Project D8: South Bay Salt Ponds Restoration Partnership. More specifically, removed sediment that meets specific re-use criteria is delivered to the U.S. Fish and Wildlife Service (USFWS)-owned Pond A8 to provide suitable substrate on which marsh vegetation can grow. In FY19, Valley Water placed 6,362 cubic yards of removed sediment at Pond A8. Sediment that did not meet specific re-use criteria was either delivered to appropriate landfills or re-used at other pre-approved locations.

Restoring Flow Conveyance Capacity

Sediment removal activities were performed at 15 sites along 12 creeks during the FY19 summer SMP season (generally, June 15 through October 15, 2018). More than 18,000 cubic yards of sediment was removed to restore flood conveyance capacity. Sediment removal helped keep these reaches of creek flowing adequately during the following winter season to minimize potential for flooding.

Regulatory Agencies' Permit Approvals

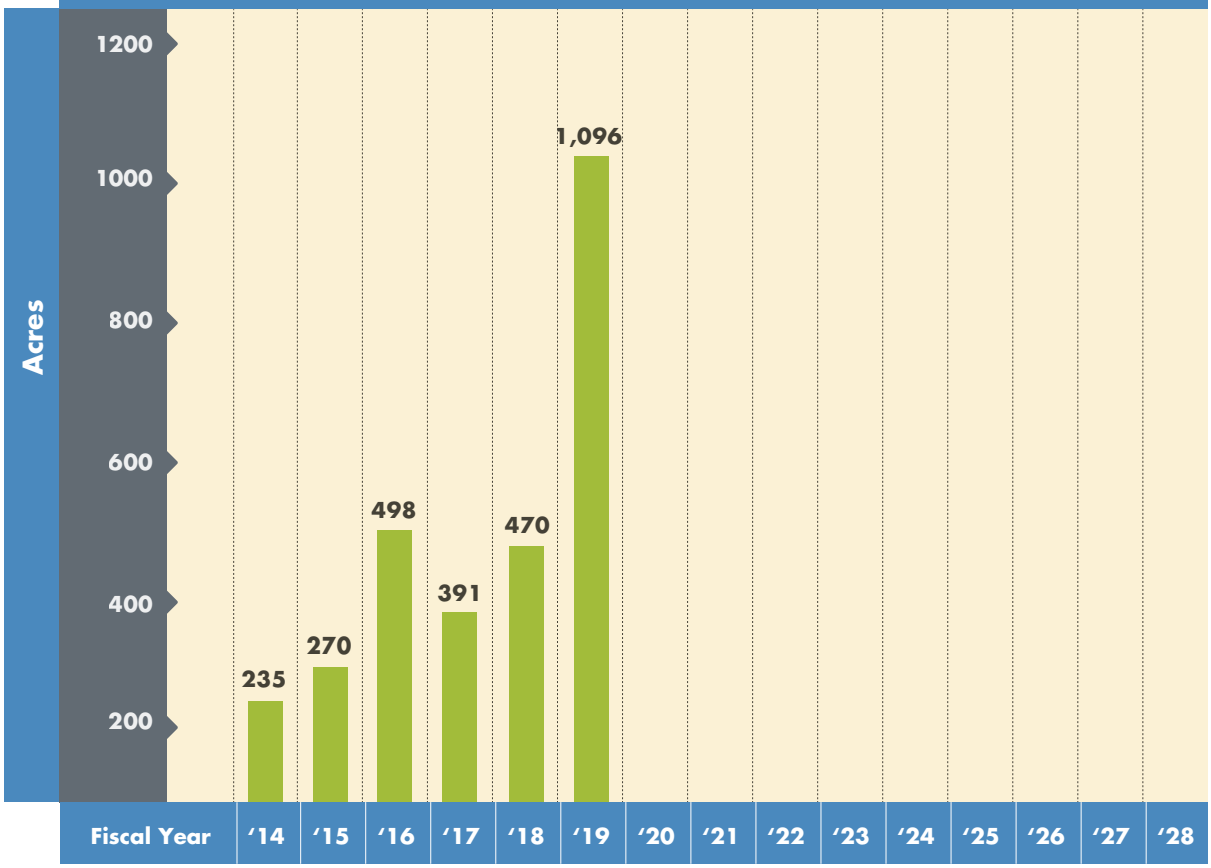
Obtaining regulatory agencies' permit approvals continues to be a challenge for Valley Water, affecting both the ability and cost to perform routine stream maintenance work. Valley Water continues to coordinate with regulatory agencies on mutually acceptable mitigation to offset impacts associated with sediment removal, vegetation management and other stream maintenance activities.

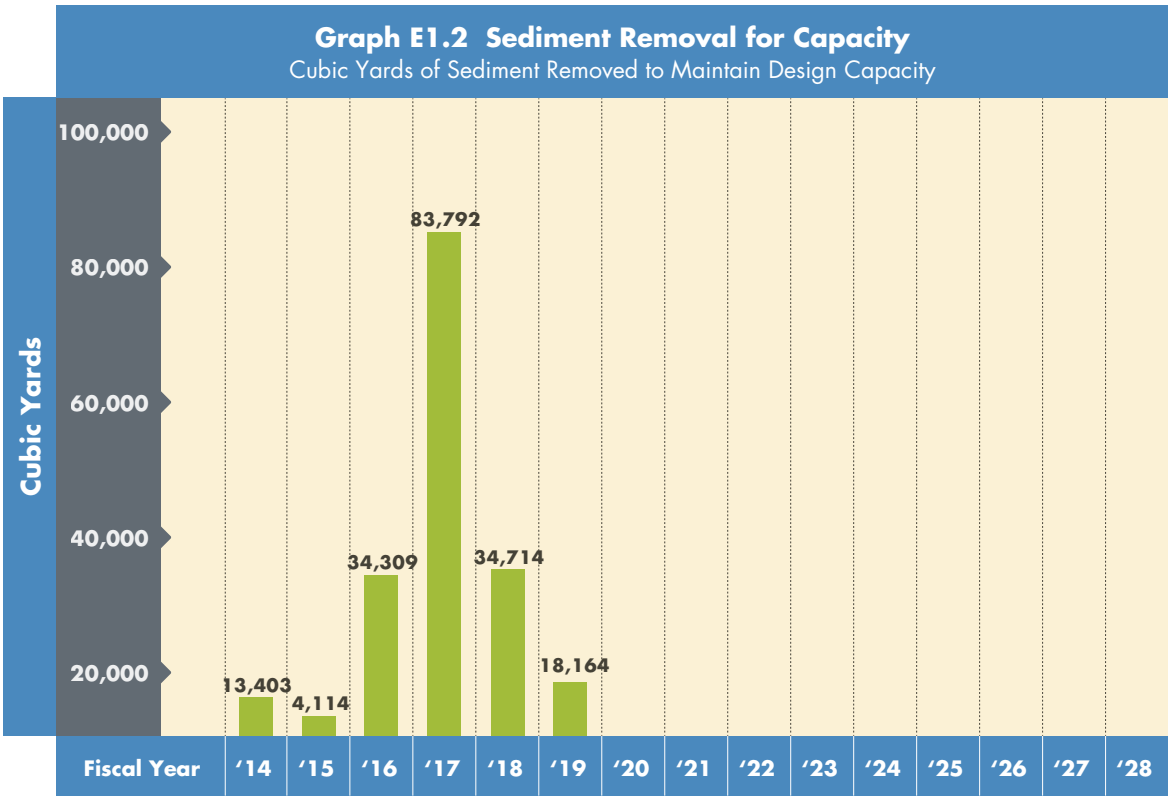
BEFORE: Instream vegetation removal.

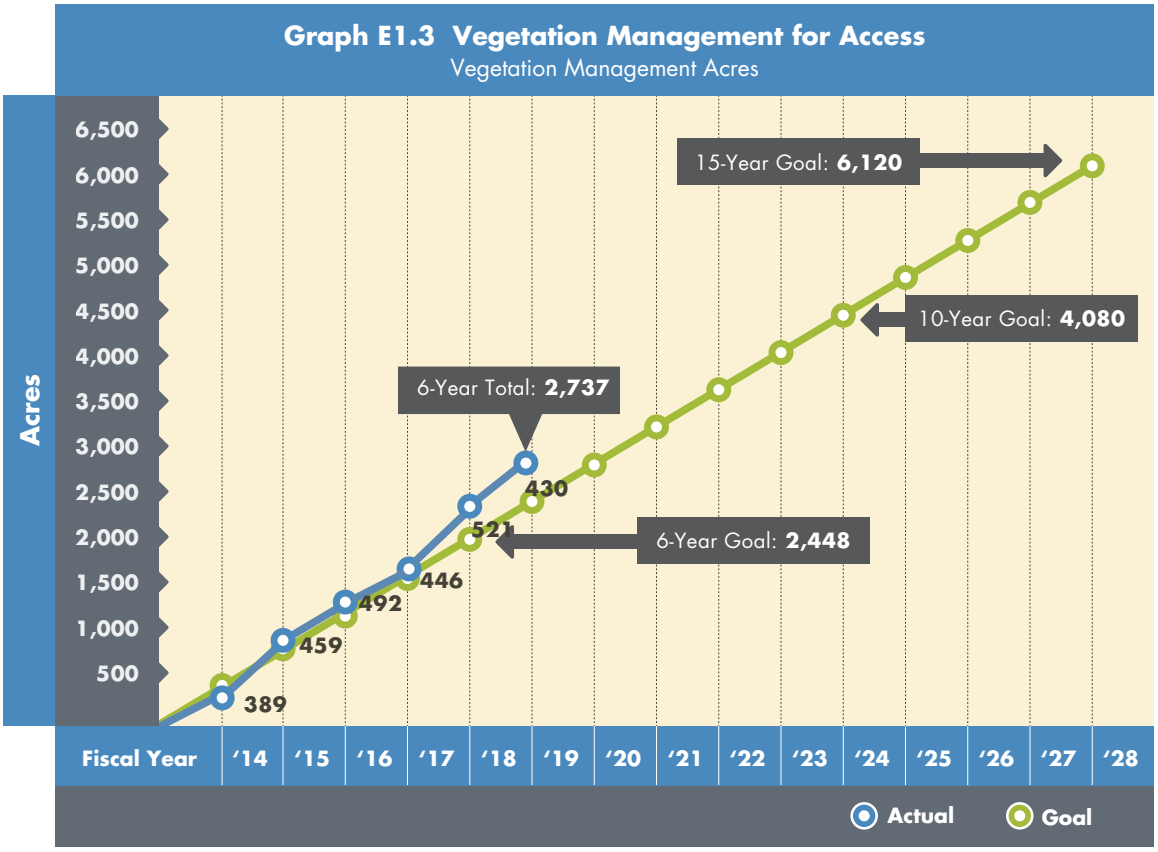
AFTER: Instream vegetation removal.

Graph E1.1 Vegetation Control for Capacity

Acres of In-Stream Vegetation Management Removed to Maintain Design Capacity




Graph E1.2 Sediment Removal for Capacity
Cubic Yards of Sediment Removed to Maintain Design Capacity
Cubic Yards
100,000
80,000
60,000
40,000
20,000
13,403
4,114
34,309
83,792
34,714
18,164
Fiscal Year
'14
'15
'16
'17
'18
'19
'20
'21
'22
'23
'24
'25
'26
'27
'28


Graph E1.3 Vegetation Management for Access
Vegetation Management Acres
Acres
6,500
6,000
5,500
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
15-Year Goal: 6,120
10-Year Goal: 4,080
6-Year Total: 2,737
6-Year Goal: 2,448
389
459
492
446
521
430
Fiscal Year
'14
'15
'16
'17
'18
'19
'20
'21
'22
'23
'24
'25
'26
'27
'28
Actual
Goal

Project E2

Emergency Response Planning

This project allows Valley Water to work with local municipalities to clearly identify roles and responsibilities for floodplain management and flood emergency management and increase awareness of Valley Water's flood response procedures. The project supports countywide emergency response and preparedness activities, develops communication procedures and disseminates web-based flood forecasting information developed under Project C2, Emergency Response Upgrades. Collaborators also develop formal, site-specific flood response procedures or action plans (flood-fighting strategies), and coordinate outreach throughout the county so that the public receives uniform flood warning messages.

This project is comprised of 2 sub-projects that support Valley Water's ongoing emergency response planning. Refer to Appendix B in the 5-Year Implementation Plan for project descriptions. These sub-projects are:

E2.1 Coordination with Local Municipalities on Flood Communication

E2.2 Flood-Fighting Action Plans

Benefits

- Reduces flood damage
- Provides effective coordinated response to storm-related emergencies
- Improves community awareness about flood risks

Key Performance Indicators (15-year Program)

1. Coordinate with agencies to incorporate Valley Water-endorsed flood emergency procedures into their Emergency Operations Center plans.
2. Complete 5 flood-fighting action plans (1 per major watershed).

Geographic Area of Benefit: Countywide

Emergency response planning meeting with Valley Water and City of San José.

ON TARGET

Project E2 FY19 Highlights

- Continued engagement with the emergency management community by attending monthly meetings and hosting the annual Winter Preparedness workshop with attendees from various cities and the county.
- Along with the City of San José, held the annual table-top exercise of the Joint Emergency Action Plan (EAP) at the city's Emergency Operation Center.
- Presented and participated in the annual San Francisquito Creek Multi-Agency Coordination (MAC) meeting and table-top exercise at the City of Palo Alto Community Center.
- Completed two action plans in the Uvas/Llagas Watershed and three action plans detailing response procedures for Guadalupe River and its tributaries Ross and Canoas creeks.

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET

Status for FY19: ON TARGET

Progress on KPI #1:

E2.1 Coordination with Local Municipalities on Flood Communication

Valley Water continues to work with local municipalities to plan and exercise plans to best communicate and coordinate during an emergency response. The highlights of FY19 efforts follow:

- In October 2018, Valley Water hosted a Winter Emergency Operations and Preparedness Workshop with attendees from various cities and the county. The meeting comprised of presenters from Valley Water's Emergency Services and Security (ESS) Unit along with representatives from Watershed Field Operations, Reservoir Operations, Communications, Hydraulics, Hydrology & Geomorphology, and Sandbag Program. Presenters also included staff from the National Weather Service, Cal Fire, Department of Water Resources, and the Santa Clara County Office of Emergency Services. The purpose of the meeting was to share information regarding the upcoming rainy season and the multiple agencies' activities that transpire during the winter season. The emphasis was on response, coordination and communication as a way to pro-actively and collaboratively prepare for potential flooding.
- On November 5, 2018, the City of San José and Valley Water held the annual table-top exercise of the Joint Emergency Action Plan (EAP) at the city's Emergency Operation Center. This coordinated table-top included planning by the city and Valley Water. The exercise included coordinating efforts such as the probability color coded triggers (Yellow/Orange/Red) that help staff understand expected action for each level; discussion on the utilization of the Multi-Agency Coordination (MAC); and the timing associated with key communication efforts.
- On December 4, 2018, Valley Water presented and participated in the annual San Francisquito Creek MAC meeting and table-top exercise at the City of Palo Alto community center. Topics covered in the multiple presentations were: Public Information Officers' (PIO) roles, agency coordination, Joint Information Centers, and National Weather service seasonal forecast. The exercise is meant to test the EAP and gauge its effectiveness during an actual response.
- During the January and February 2019 rainstorms, Valley Water's EOC activations included close coordination with the City of San José and adherence to the Joint EAP roles and responsibilities along with deployment of the communication processes.

Progress on KPI #2:

E2.2 Flood-Fighting Action Plans

In FY19, Valley Water worked closely in partnership with the cities of San José, Morgan Hill, Gilroy and Palo Alto to exercise or develop, flood-fighting action plans (also known as EAPs) to help maximize the effectiveness in communication and coordination during a flood emergency response. Valley Water completed two (2) action plans in the Uvas/Llagas Watershed and three such action plans detailing the action response procedures for Guadalupe River and its tributaries Ross and Canoas creeks. The three streams are in the Guadalupe Watershed.

- Guadalupe Watershed – The flood-fighting action plans for the Guadalupe River and its tributaries Ross and Canoas creeks were completed and incorporated as appendices in the Joint EAP developed with the City of San José in FY18. These additions were approved by Valley Water's Chief Executive Officer and the City of San José City Manager. With the addition of these appendices, the MAC plan with the city now consists of flood-fighting action plans for Coyote River in Coyote Watershed (completed in FY18), and Guadalupe River, Ross and Canoas creeks in the Guadalupe Watershed.
- Uvas/LLagas Watershed - In FY19, an internal team from Valley Water's Emerging Leaders Certification Program (ELCP) partnered with the ESS Unit to develop two EAPs or flood-fighting action plans for the watershed. ESS staff provided guidance and oversight to the team as it developed the EAP for West Little Llagas Creek in the City of Morgan Hill and another one for Uvas Creek in the City of Gilroy. On May 30, 2018, Valley Water met separately with staff from the City of Morgan Hill and the City of Gilroy to discuss the draft EAPs, including roles and responsibilities and overall flood response actions and expectations for both agencies. Subsequently, Valley Water received input from both the cities. The two (2) EAPs are strictly Valley Water internal documents.
- Lower Peninsula Watershed - The San Francisquito Creek EAP is being updated. As of the end of FY19, ESS and project staff is reviewing the updated draft which will subsequently be routed to the San Francisquito Creek Joint Powers Authority for input. This internal document is targeted for completion by Q1 of FY20.

Financial Information

In FY19, 47% of the annual project budget was expended.

The under-expenditure was because the Coyote Creek flood-fighting action plan, developed in partnership with the City of San José in FY18, served as the framework and the model for subsequent plans, which streamlined the development process. In addition, the plan developed for the Uvas/Llagas Watershed was done as part of ELCP, whose hours were charged to the training program, resulting in savings for the Safe, Clean Water Program.

Financial Summary ($ Thousands) E2. Emergency Response Planning						
Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$217	$101	$0	$101	47%	$3,891	35%

Opportunities and Challenges

Coordination with Project C2: Emergency Response Upgrades

When applicable, the flood forecasting products and data collected under Project C2: Emergency Response Upgrades are being incorporated into Project E2: Emergency Response Planning documents to help inform decision makers. For example, technical mapping and flood-warning baselines produced under Project C2 were used while developing the Guadalupe River flood-fighting action plan and in updating the action plan for San Francisquito Creek, which was developed in FY17. Project C2 focuses on the development of flood warning system infrastructure to assist flood responders by providing forecasted rainfall and stream flows and potential flooding information. Project E2 focuses on pre-event planning and collaboration with other agencies to develop flood response procedures that clarify roles and responsibilities before a flood event arises.

Keeping EAPs Current

Regarding, KPI #2, the last of the five (5) flood-fighting action plans (one (1) per watershed), namely West Valley Watershed, is expected to begin development in FY20. Moving forward, these plans are targeted to be reviewed annually.

Community Rating System Scores

Project E2 offers an opportunity to meet certain National Flood Insurance Program's (NFIP) Community Rating System (CRS) criteria and thereby potentially increase CRS scores for participating cities in the county. NFIP, administered by the Federal Emergency Management Agency (FEMA), offers flood insurance to all properties in communities that comply with minimum standards for floodplain management. CRS encourages and incentivizes communities to exceed the minimum NFIP requirements by offering discounts on flood insurance premiums. CRS credit points are earned for meeting the following three goals:

1. Reduce flood damage to insurable property;
2. Strengthen and support the insurance aspects of the NFIP; and
3. Encourage a comprehensive approach to floodplain management.

In FY19, the CRS Program team provided Valley Water with an excerpt from the CRS Coordinator's Manual of the relevant CRS activity to consider while developing or updating EAPs. During Valley Water's upcoming CRS five (5)

year cycle visit/audit, scheduled to take place in August 2019, Valley Water will highlight the EAPs under Activity 610 to increase CRS points. FEMA's auditor, Insurance Services Office, will determine if the requirements were met and will assign credit(s), as appropriate.

Project E3

Flood Risk Reduction Studies

This project develops engineering studies to understand the actual flood risk in high priority flood-prone areas and develops options for managing the flood risks.

Studies will focus on the following reaches:

- Alamitos Creek upstream of Almaden Lake in San José
- Rock Springs neighborhood along Coyote Creek in San José
- Calera Creek near Milpitas High School to Interstate 680 in Milpitas
- Tributaries to Lower Silver Creek (Ruby, Norwood, Quimby and Fowler creeks) in San José
- Ross Creek in San José, from Guadalupe River to Blossom Hill Road
- Adobe and Barron Creeks in Palo Alto, between Highway 101 and Middlefield Rd.

The engineering studies include hydrology, hydraulics, geotechnical, and remapping work of the floodplain areas to provide a more accurate reflection of the floodplain. If the outcome of the engineering studies results in updates to the parcels that fall within the effective Federal Emergency Management Agency (FEMA) floodplain, the updated maps and parcel count summaries will be submitted to the impacted city/cities. It is each impacted city's responsibility to determine how best to inform its community and whether to submit the updated maps to FEMA. If the impacted city decides to hold public meetings, Valley Water will provide support materials and offer technical support to address questions from the community. To revise the effective FEMA floodplain, the impacted city would be required to submit the updated maps through FEMA's formal Letter of Map Revision (LOMR) process. Valley Water's role in the LOMR process is to provide technical support and background on the analysis performed during the engineering study. If the impacted city chooses not to submit the updated maps to FEMA, the maps can still be useful to the city in planning efforts and for residents in determining whether or not to purchase flood insurance. Valley Water's updated maps will be made available to the public on valleywater.org.

Flooding History and Project Background

In 1997, the Rock Springs neighborhood suffered severe flood damages to approximately 25 low-income apartment buildings. A subsequent study investigated the flooding problem and offered possible solutions.

High water marker on Alamitos Creek.

ON TARGET

Project E3 FY19 Highlights

- Significant progress made towards the Ross Creek engineering study and preliminary work done to determine the required size for a detention basin solution.
- Progress on the Ross Creek study included: Developing a new InfoWorks ICM model (urban hydrology).
- The Alamitos Creek 2-D hydraulic (HEC-RAS) model of the updated 1% floodplain completed in FY18 was used to perform parcel counts within the updated 1% floodplain and information was shared with the City of San José.

Alamitos and Calera Creeks were modified with levees and floodwalls about 30 years ago, but their designs do not meet current FEMA guidelines which were published after the projects were built. Both the Alamitos and Calera neighborhoods are mapped as regulatory floodplains. In 2012, FEMA released new draft technical guidance for mapping floodplains behind levees; these new guidelines may significantly reduce the size of the regulatory floodplains for Alamitos and Calera Creeks, but a study is needed to qualify for updated regulatory mapping.

Every winter, thousands of households, schools and businesses in San José are susceptible to flood damage in the Lower Silver Creek watershed. While Valley Water is improving the flood carrying capacity of Lower Silver Creek itself, the smaller tributaries continue to pose a flood risk. Project E3 would map and quantify these flood risks and identify possible solutions that may also provide environmental or recreational benefits.

Benefits

- Provides more accurate mapping of areas at risk of flooding
- May add or remove parcels from the FEMA regulatory floodplain, based on updated mapping standards
- Information can be integrated into flood warning program to provide advance, real-time warnings of impending flood events
- Provides technical basis for developing future flood protection plans, and for potential funding partnerships

Key Performance Indicators (15-year Program)

1. Complete engineering studies on 7 creek reaches to address 1% flood risk.
2. Update floodplain maps on a minimum of 2 creek reaches in accordance with new FEMA standards.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET

Status for FY19: ON TARGET

Progress on KPI #1:

In FY19, significant progress was been made towards the Ross Creek engineering study, which is being performed as part of the feasibility phase for a potential future flood protection project on Ross Creek. Progress on the study included:

1. Developing a new InfoWorks ICM model (urban hydrology) which routes flows overland and through the storm drain network was developed to more accurately predict hydrograph inflows along the creek;

2. Developing an unsteady, 1-D Hec Ras model to predict detailed water surface profiles in Ross Creek and calibrated to 2019 high water marks;
3. Conducting a review of the background information on Ross Creek; and
4. Developing a problem definition for Ross Creek.

In addition, some preliminary work has been done to determine the required size for a detention basin solution as part of the potential future flood protection project on Ross Creek.

Together, this work provides the basis for an alternatives analysis, which will result in a potential flood protection design for the reach. The project is looking at two different flood protection targets- 25-year and 1% flood protection (100-year flood).

So far, Valley Water has completed three (3) engineering studies on Coyote Creek (Bay to Anderson Dam, including Rock Springs Neighborhood); Adobe and Barron Creeks tidal flood protection (Highway 101 to Middlefield Road); and Alamitos Creek (upstream of Almaden Lake). Valley Water plans to complete the studies for the remaining reaches by FY22.

Progress on KPI #2:

- The Alamitos Creek 2-D hydraulic (HEC-RAS) model of the updated 1% floodplain completed in FY18 was used to perform parcel counts within the updated 1% floodplain and this information was shared with the City of San José. The updated maps have also been posted on the Project E3 web page.

Financial Information

In FY19, 114% of the annual project budget was expended.

Additional survey work and more detailed urban hydrologic modeling work required to meet FY19 project goals resulted in higher expenditure.

Financial Summary ($ Thousands)
E3. Flood Risk Reduction Studies

Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$819	$757	$176	$933	114%	$9,374	45%

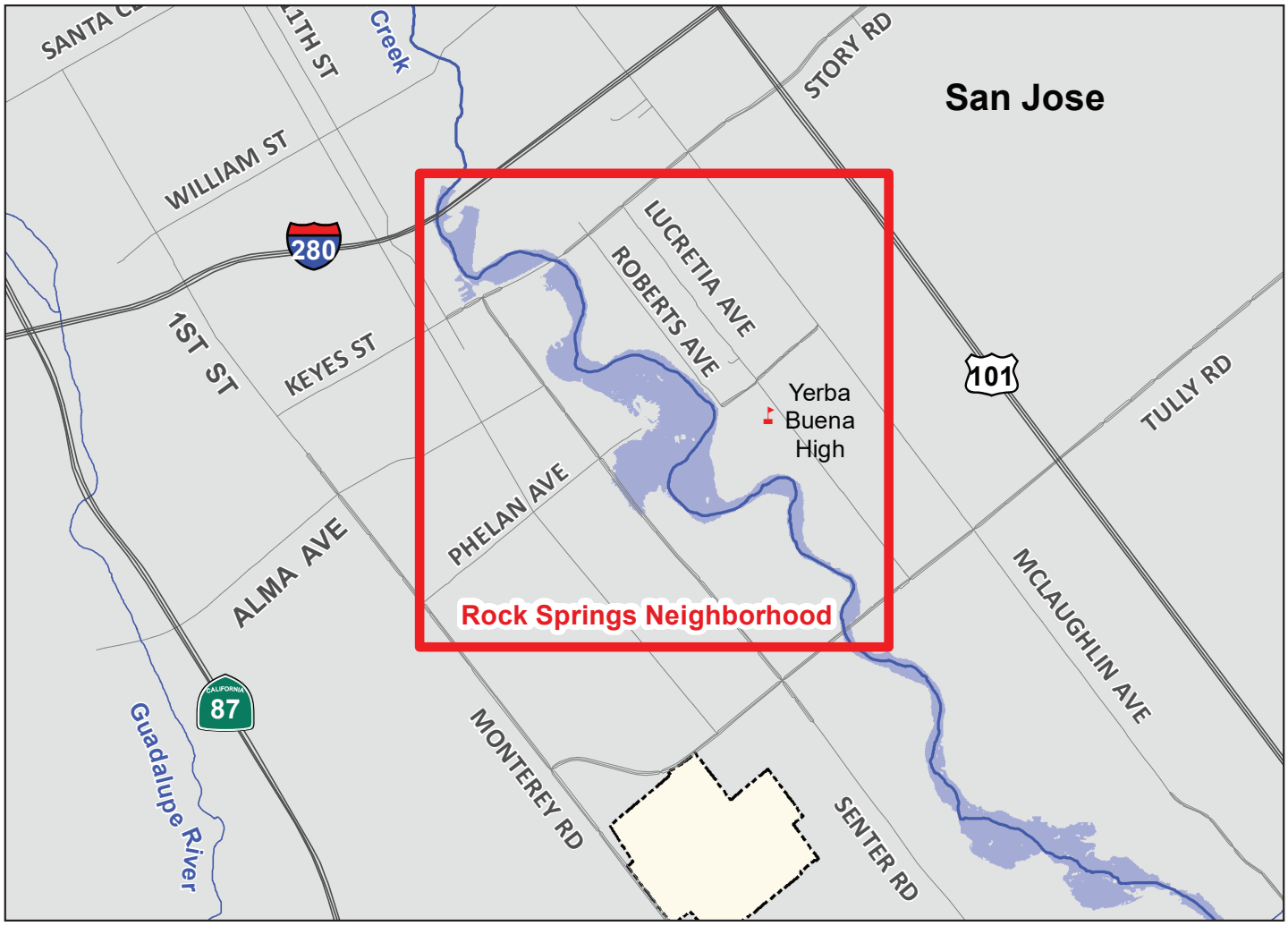
Opportunities and Challenges

Urban Hydrology

The Ross Creek study has allowed Valley Water the opportunity to build a state-of-the-art ICM model for the area, which directly incorporates the effects of the storm drains into its hydrology predictions. Such modeling is very

useful in areas like Ross Creek where storm drains are known to back up during storm events and where flows from storm drains represent a large fraction of the flows in the creek, noting that previous methodology did account for storm drains through parameterization.

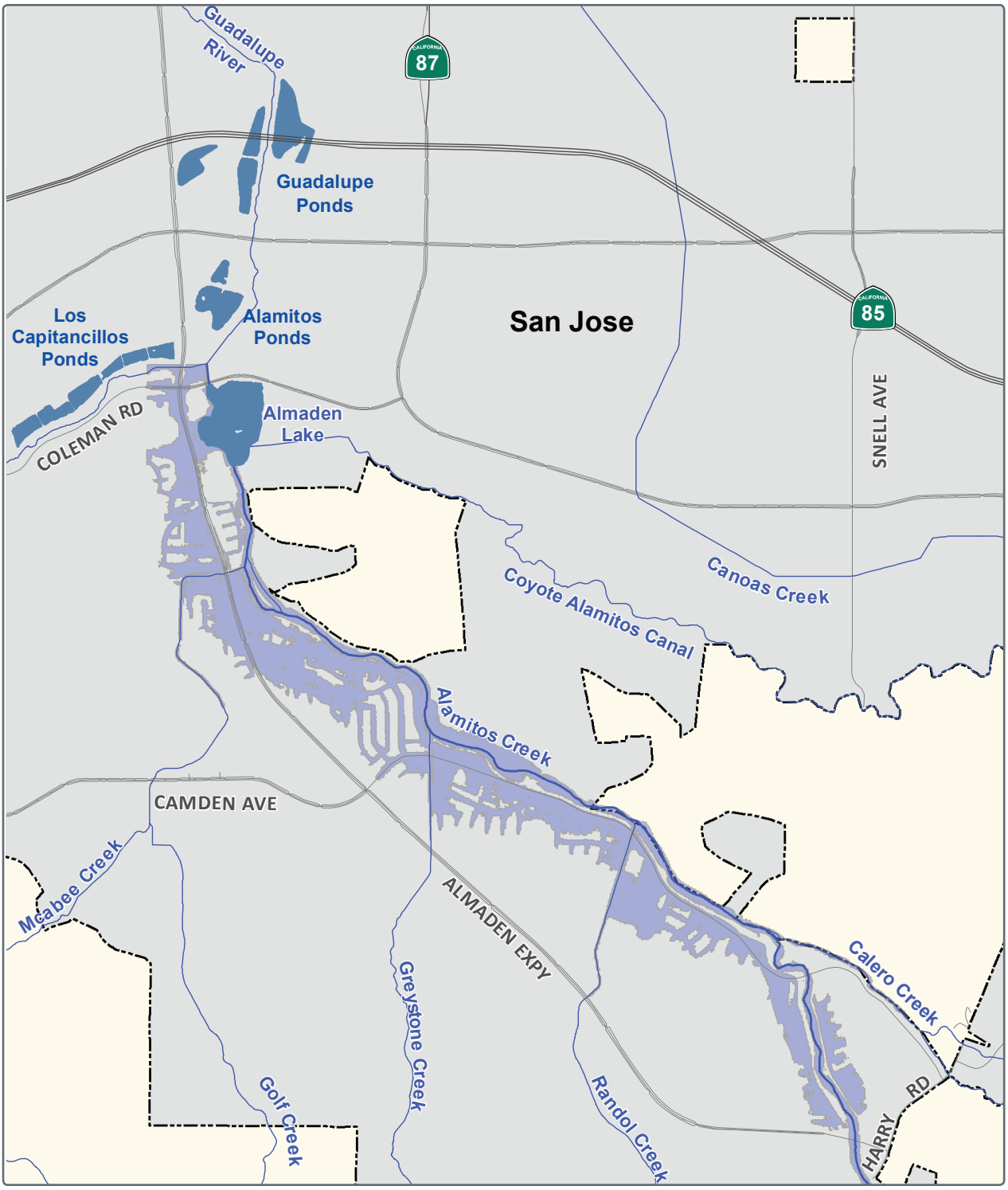
Figure 1 below shows a simplified version of the Coyote Creek (Rock Springs neighborhood) study map.



Legend

Coyote Creek	Santa Clara County Cities
Upper Coyote Creek Study - 1% Flood Risk Zone	Santa Clara County

Figure 2 below shows a simplified version of the Alamitos Creek study map.



Alamitos Creek

Alamitos Creek Study - 1% Flood Risk Zone

Santa Clara County Cities

Santa Clara County

Project E4

Upper Penitencia Creek Flood Protection Coyote Creek to Dorel Drive – San José

Preferred project: A federal-state-local partnership

This project continues a partnership with the U.S. Army Corps of Engineers (USACE) to plan, design and construct improvements along 4.2 miles of Upper Penitencia Creek from the confluence with Coyote Creek to Dorel Drive. Part of the project will protect the area around the Bay Area Rapid Transit's Berryessa station near King Road, which would otherwise be subject to flooding.

The natural creek channel will be preserved while adjacent existing open space and parkland will remain as recreational areas, only rarely taking the role as a temporary floodplain so that floodwaters do not enter surrounding neighborhoods and commercial areas. Proposed construction measures may include modified floodplains, levees, flood walls, bypass channels, and fish passage improvements. Existing Valley Water water supply facilities may also be modified to protect habitat and improve water supply reliability.

The $41.9 million ($48.9 million in inflated dollars) in local funding from Safe, Clean Water allows Valley Water to move ahead with the planning, design and construction of the project.

Upper Penitencia Creek along Commodore Park.

ON TARGET

Project E4 FY19 Highlights

- Continued work on the project's planning study, focusing on a multi-purpose project.
- Further development and verification of a hydraulic model of the floodplain using the state-of-the-art 2-D HEC-RAS model.
- Landscape Concepts Vision Report finalized in December 2018.
- Completed the conceptual alternative analysis and continued work on the feasible alternative analysis and screening process to determine the preferred alternative.

Flooding History and Project Background

Upper Penitencia is a major tributary of Coyote Creek, flowing westerly from Alum Rock Park through the residential neighborhoods of Berryessa and Alum Rock in San José. More than 5,000 homes, schools and businesses are located in this floodplain, including many high-tech and commercial industries supporting the greater Silicon Valley.

With the capacity to carry less than a 10-year event, Upper Penitencia Creek has spilled its banks at least 7 times since Valley Water began preparing flood reports in 1967. Damaging flood events occurred in 1978, 1980, 1982, 1983, 1986, 1995, and 1998, impacting many homes, businesses and surface streets.

Potential damages from a 1% (or 100-year) flood event are estimated at $455 million (in 2004 dollars, according to a USACE economic analysis), with average annual damages estimated at $30.5 million for the full reach from the Coyote Creek confluence to Dorel Drive.

The preferred project would build on a 1981 tri-party agreement between Valley Water, the City of San José, and Santa Clara County to preserve open land and provide flood protection along the Upper Penitencia Creek corridor. As a result

of the agreement, 78 acres have been permanently preserved as Penitencia Creek County Park and Penitencia Creek Trail. A 4-mile, intermittent trail follows Upper Penitencia Creek from 700-acre Alum Rock Regional Park to its confluence with Coyote Creek. In addition to much-needed flood protection, this project will help provide the opportunity for the City of San José and Santa Clara County to complete the long-planned trail and linear park.

Benefits

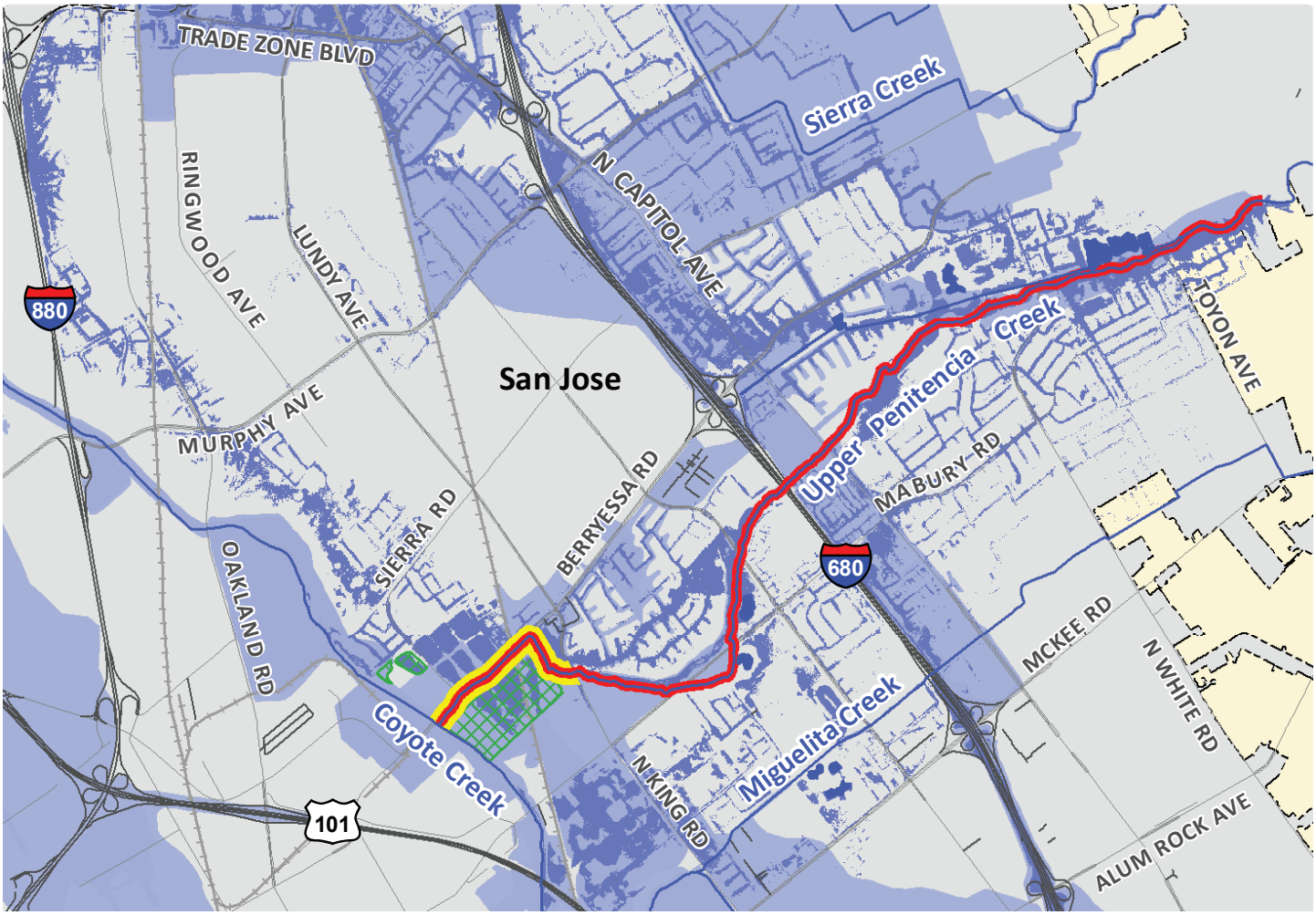
- Preferred project provides 1% flood protection to approximately 5,000 homes, schools and businesses. Locally funded-only project provides 1% flood protection to the proposed rapid transit station and areas downstream from King Road
- Reduces sedimentation and maintenance requirements
- Improves water quality in Coyote Creek
- Provides opportunities for recreation improvements consistent with the City of San José and Santa Clara County Park master plans

Key Performance Indicators (15-year Program)

1. Preferred project with federal and local funding: Construct a flood protection project to provide 1% flood protection to 5,000 homes, businesses and public buildings.
2. With local funding only: Acquire all necessary rights-of-way and construct a 1% flood protection project from Coyote Creek confluence to King Road.

Geographic Area of Benefit: San José and Milpitas

Project Location



Preferred Project (KPI #1)

Locally Funded Only Project (KPI #2)

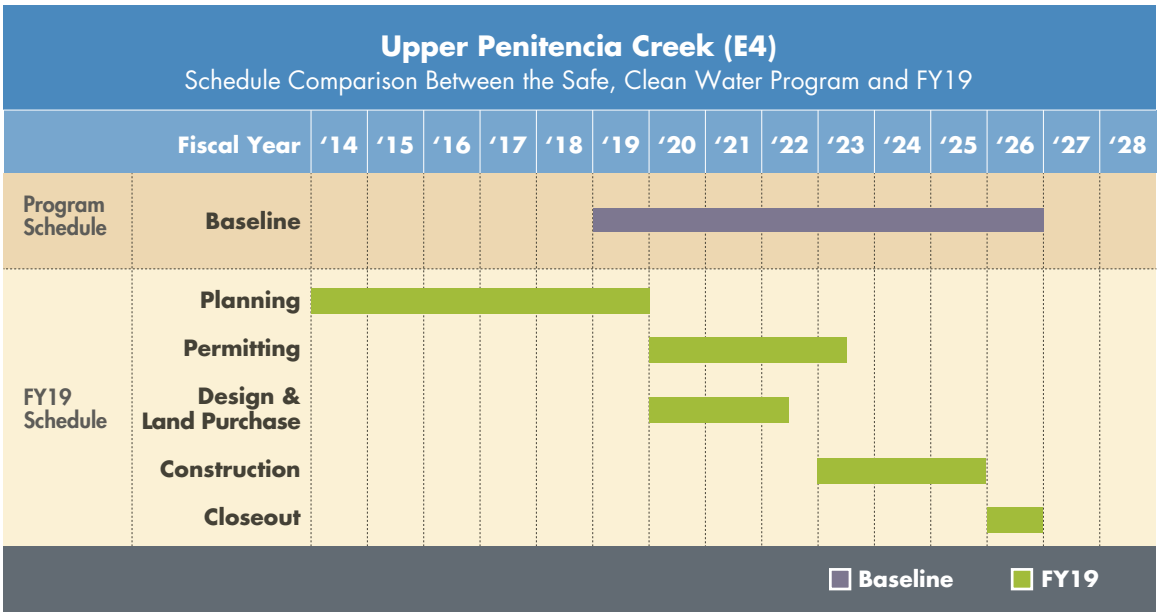
Locally Funded Project Improvement Area

1% Flood Protection Zone (As of 2012)

Updated 1% Flood Risk Zone

Santa Clara County

Schedule



Status History

Fiscal Year	Status
FY 14	ADJUSTED
FY 15	ADJUSTED
FY 16	ADJUSTED
FY 17	ON TARGET
FY 18	ON TARGET

Status for FY19: ON TARGET

Progress on KPI #1 and #2 (combined):

- In FY19, Valley Water continued work on the project's planning study, focusing on a multi-purpose project that would provide long-term benefits for flood protection, fish and wildlife, riparian vegetation, water supply and recreation. Some of the highlights over the year included:
  - » Developed, analyzed and evaluated the conceptual alternatives to get down to the feasible alternatives.
  - » Developed, analyzed and screened the feasible alternatives to determine the preferred alternative.
  - » Further development and verification of a hydraulic model of the floodplain using HEC-RAS, a state-of-the-art 2-D numerical model, to determine the flood problem under various flood frequency events.
  - » Using the hydraulic model, developed the alternatives and a variety of after project flooding scenarios.
  - » Continued to work with San Francisco Estuary Institute (SFEI) on a Landscape Concepts Vision Report and

finalized the report in December 2018. The report can be found on the project website here: https://www.valleywater.org/sites/default/files/UpperPenVision_FINAL_121418-website.pdf.

» On May 2, 2019, Valley Water held a meeting with environmental resource agencies to discuss the Vision Report, conceptual alternatives and get their input.

» Valley Water held a series of three (3) charrettes, two (2) with internal Valley Water experts and one (1) with partners (the City of San José and the County of Santa Clara), to further develop landscape concepts.

In FY18, the Capital Improvement Program (CIP) committee recommended to modify the Upper Penitencia Creek project to the planning phase only and reallocate the remaining funds to allow Valley Water to complete flood risk reduction along nine (9) miles of Coyote Creek from Montague Expressway to Tully Road. However, during the FY18 public hearing, the Board decided to take "no action" on the proposed modification to the Upper Penitencia Creek project and decided to reevaluate both projects after the planning study report for each project is completed or substantially advanced, which is expected in early FY20.

Financial Information

In FY19, 34% of the annual project budget was expended.

The project was under expended because Valley Water just began using its Safe, Clean Water funds for this project in FY19. Previously, the planning effort was supported by Valley Water's Watersheds Stream Stewardship fund.

Financial Summary ($ Thousands)
E4. Upper Penitencia Creek

Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$1,909	$649	$0	$649	34%	$44,015	1%

Opportunities and Challenges

Water Supply

There are a number of water supply facilities along the project reaches, including groundwater percolation ponds. Project alternatives should not reduce recharge operations in the watershed and should look for the opportunity to preserve water supply functions.

Ecosystem Restoration

The natural corridor at Upper Penitencia Creek is considered to be among the best remaining habitat areas in the Santa Clara Valley between Coyote Creek and the Diablo Range. Habitat in Upper Penitencia Creek could support several special-status species, including steelhead trout, California red-legged frog, California tiger salamander,

and Western pond turtle. The upstream portion of the project area contains valuable and relatively undisturbed native California sycamore alluvial woodland.

Recreation

There are several parks and open spaces along the creek, as well as the Penitencia Creek trail. These recreational features are well-used by the community, and there are opportunities for this project to work jointly with its partners to improve these resources.

Inundation Maps

In response to an Independent Monitoring Committee (IMC) recommendation, the inundation maps were added to the project web page to show the approximately 8,000 parcels that will receive flood protection from this project (https://www.valleywater.org/project-updates/creek-river-projects/upper-penitencia-creek-flood-protection).

Confidence Levels

Schedule: Moderate confidence

The project's schedule will depend on the Board's decision on whether to move forward through planning, design and construction or whether to modify the KPIs, which may include redefining the preferred project and reducing the local funding only project deliverable to completion of a planning study. The Board's decision will be made during a formal public hearing in FY20 and will be dependent on information and analysis that will be produced as part of the outcome of the planning study. The project team developed the preferred alternative and a draft planning study report by the end of FY19. The full watershed planning study will be completed in the beginning of FY20.

Funding: Moderate confidence

In FY14-18, Valley Water aggressively pursued federal funding for the project. The USACE scope of the project was limited to a single-purpose flood risk reduction project, while the community and environmental regulatory agencies advocated for a multi-purpose project. In support of a multi-purpose project, Valley Water decided to move forward with planning, which would also facilitate a local funding only project aimed at meeting multiple beneficial goals including water quality and providing opportunities for recreation improvements and habitat restoration. Meanwhile, Valley Water is also exploring options to continue some level of a federal-funded project.

Permits: High confidence

The resource agencies have been brought in very early in the planning process and will continue to be engaged during planning and design. This will help to shape a true watershed project with associated ecosystem restoration measures and facilitate the acquisition of regulatory permits for project construction.

Jurisdictional Complexity: Moderate confidence

The project is entirely within the City of San José. A tri-party agreement between the City of San José, Santa Clara County and Valley Water to jointly use mutual resources along the creek for recreation, flood protection and water supply purposes aligns the local jurisdictions well with the project.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

San Francisquito bridge.

ADJUSTED

Project E5 FY19 Highlights

S.F. Bay to Highway 101:

- Completed construction of the S.F. Bay to Highway 101 reach of the project.

Upstream of Highway 101:

- Continued to work on the 95% design document for channel constrictions upstream of Highway 101.
- Continued design on the Pope/Chaucer Street Bridge.

Project E5

San Francisquito Creek Flood Protection
San Francisco Bay to Middlefield Road – Palo Alto

The project is sponsored by the San Francisquito Creek Joint Powers Authority (SFCJPA), of which Valley Water is a member agency, in partnership with the U.S. Army Corps of Engineers (USACE). The project builds on the planning and design tasks initiated as part of the Clean, Safe Creeks plan.

Preferred project: A federal-state-local partnership

This project will complete construction of setback levees and floodwalls from San Francisco Bay to Highway 101 to provide 1% (or 100-year) flood protection and ecosystem benefits. Upstream of Highway 101 the project will provide 1% flood protection, ecosystem protection, and recreational benefits.

The work upstream of Highway 101 will remedy channel constrictions and modify bridges at Newell Road and Pope/Chaucer Street, and include; a combination of: modified bridges at University Avenue and Middlefield Road; upstream detention; under-ground bypass channels; and floodwalls.

Local-state-funding-only project:

The local-state-funding-only project will be the same as the preferred project downstream of Highway 101; but upstream of Highway 101, the project will remedy channel constrictions and modify bridges at Newell Road and Pope/Chaucer Street to allow the channel to contain flood waters equal to the channel's capacity of 7,000 cubic feet per second, approximately a 30-year event. Allowing this level of water to flow through the channel will protect approximately 3,000 parcels in Palo Alto from a flood event close to the February 1998 flood, the largest on record. Currently the channel can only convey a 15-year flood event.

The Newell Road bridge replacement, unlike the rest of the upstream project, is sponsored by the City of Palo Alto, who has applied for funding through Caltrans' Highway Bridge Program. The project has been programmed by Caltrans to fund approximately 89% of the total cost for replacing the Newell Road bridge. The local match funds, approximately 11% of the total cost, will be funded through Valley Water's Safe, Clean Water Program. The City of East Palo Alto and the SFCJPA continue to provide input on the Newell Road bridge replacement.

If sufficient funding becomes available, a 1% flood protection project upstream of Highway 101, including some combination of: modifications to the University Avenue and Middlefield Road bridges; upstream detention; underground bypass channels; and floodwalls, could be built.

Flooding History and Project Background

San Francisquito Creek is one of the last continuous riparian corridors on the San Francisco Peninsula, and is also home to 1 of the few remaining viable steelhead trout runs. The creek can cause severe flood damage with very little warning and has overflowed 7 times since 1910.

During the February 1998 El Niño event, record flooding caused an estimated $28 million in damages in Palo Alto, East Palo Alto and Menlo Park. More than 1,100 homes were flooded in Palo Alto, and Highway 101 was closed, as were numerous other roadways. The largest flood on record prior to 1998 occurred in December of 1955 when the creek overtopped its banks in several locations, inundating about 1,200 acres of commercial and residential property. Damages were estimated at nearly $2 million in 1956 dollars. Total damages from a 1% flood event are estimated at $300 million in Santa Clara and San Mateo Counties, as calculated by the USACE in 2011.

Benefits

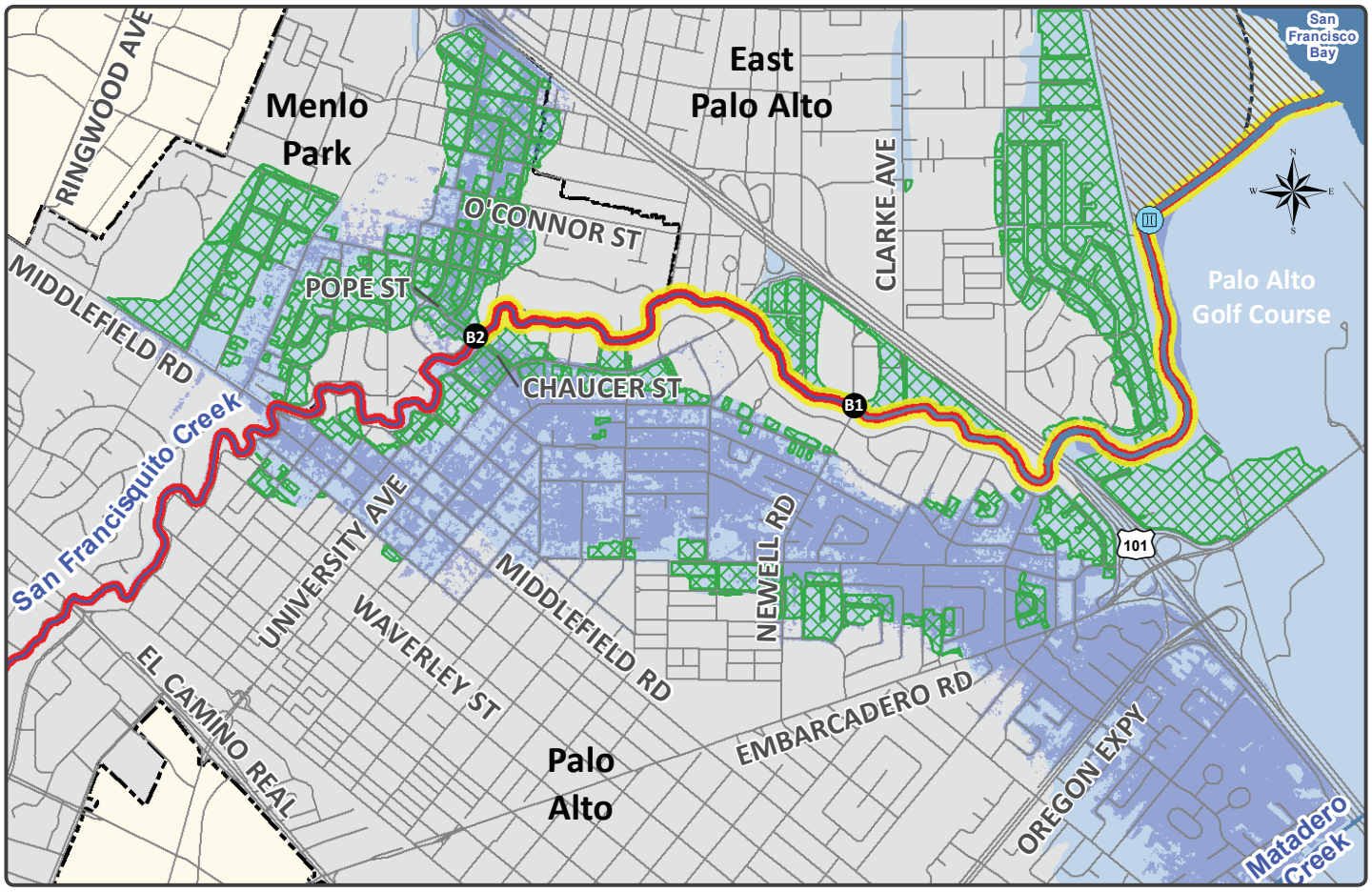
- Provides 1% flood protection for approximately 3,000 homes and businesses in Palo Alto
- Reduces bank erosion and sedimentation-related impacts along San Francisquito Creek
- Provides new or improved habitats for endangered species
- Improves water quality
- Enhances recreational opportunities for the community
- Leverages dollars via cost-shares and grants from the state Department of Water Resources and the California Department of Transportation

Key Performance Indicators (15-year Program)

1. Preferred project with federal, state and local funding: Protect more than 3,000 parcels by providing 1% flood protection.
2. With state and local funding only: Protect approximately 3,000 parcels from flooding (100-year protection downstream of Highway 101, and approximately 30-year protection upstream of Highway 101).

Geographic Area of Benefit: Palo Alto

Project Location



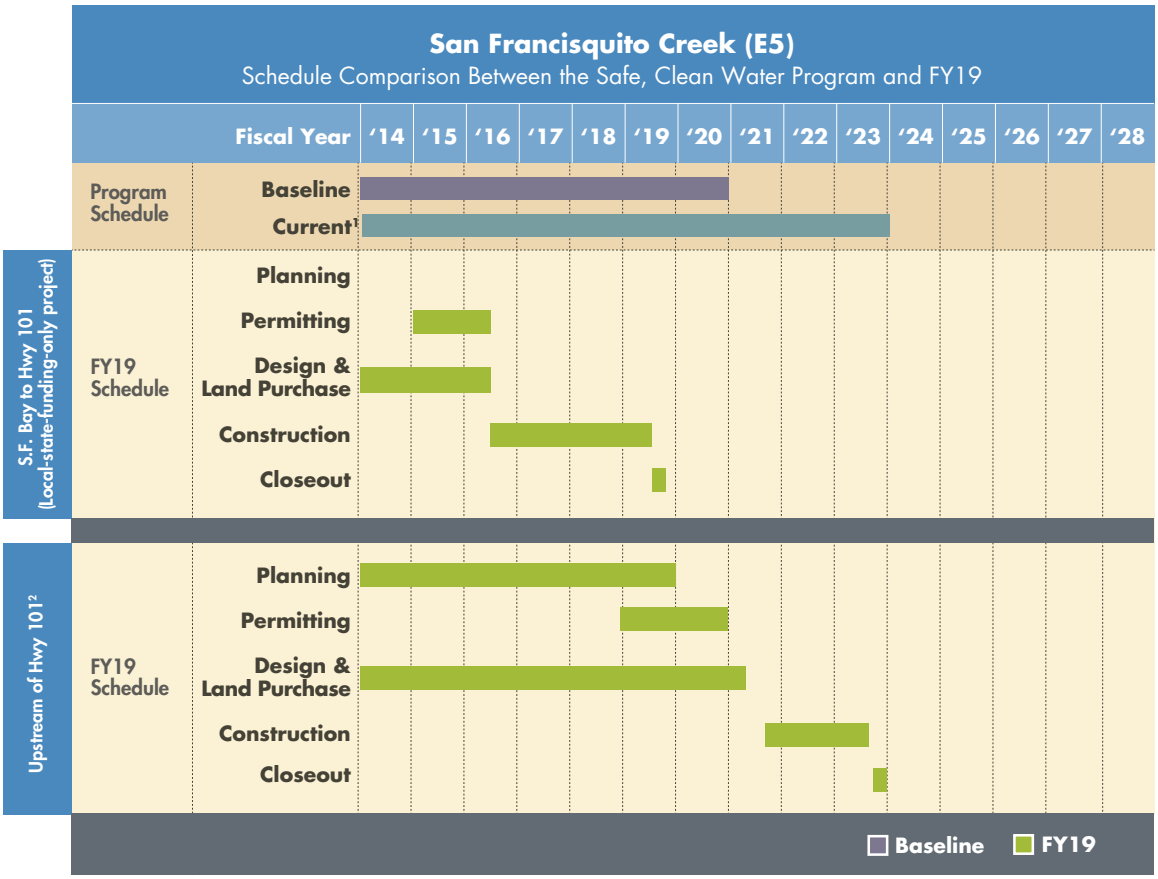
LEGEND

- Preferred Project (KPI #1)
- Local-State Funded Only Project (KPI #2)
- Locally Funded Project Improvement Area
- Faber Tract Marsh
- 1% FEMA Flood Risk Zone
- Updated 1% Flood Risk Zone
- Cities
- California Counties
- Friendship Bridge

Bridge Modification Projects:

- Newell Rd (Palo Alto)
- Pope/Chaucer St (Valley Water)

Schedule



[1]Board approved a schedule adjustment through the change control process in FY19.
[2]Federal CFCJPA has not yet determined if pursuing federal funding for upstream of project.

Status History

Fiscal Year	Status
FY 14	MODIFIED
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ADJUSTED

Status for FY19: ADJUSTED (Schedule Adjustment)

Progress on KPI #1 and #2 (combined):

S.F. Bay to Highway 101 Project

Local-state-funding only - design and construction of 1% flood protection project

- Construction of flood protection improvements for this reach was completed on May 14, 2019, which included construction of approximately 4,000 feet of floodwall; excavating sediment and degrading the existing levee from East Bayshore Road to Geng Road; degrading approximately 600 feet of levee on the East Palo Alto side of the creek adjacent to the Faber Marsh; and completing approximately 800 feet of the new offset levee on the Palo Alto side of the creek. Installation of mitigation planting will be completed in the summer of 2019.

Upstream of Highway 101 Project

Federal, state and local funding - planning and design of 1% flood protection project

- In order to obtain Congressional authorization and consideration of federal construction funding, the project is required to follow the USACE processes for feasibility, planning and design. Based upon delays to the feasibility phase, the Draft Feasibility Report was not able to be completed by USACE within the October 15, 2019 extended deadline. As a result, continuing with the required General Investigation (GI) Study would significantly impact the project's timeline and funding.

- Based upon the impacts to the project's timeline and funding, on June 27, 2019, the SFCJPA Board approved staff's recommendation to pursue options for USACE funding that does not require Congressional authorization through the USACE Continuing Authorities Program Section 205 (CAP 205) process. The SFCJPA and USACE plan to move forward with closing the project under the GI Study and formally initiate the CAP 205 process in early FY20.

Local-state-funding-only - construction of approximately 30-year flood protection project

Channel Constrictions

- Continue to work on the 95% design document for channel constrictions upstream of Highway 101. The design document is being coordinated with the SFCJPA and expected to be completed in December 2019. Construction is expected to begin in the summer of 2021.

- The SFCJPA's environmental consultant prepared the draft Environmental Impact Report (EIR), which was released in April 2019 for public review and comment. Three separate public hearings were held to obtain input from the public in Menlo Park, East Palo Alto and Palo Alto in May and June of 2019. The EIR is expected to be completed by the end of summer 2019.

Newell Road Bridge

- The City of Palo Alto is responsible for planning, permitting, design and construction of the Newell Road Bridge Replacement project. The planning, permitting and design phases are primarily funded by a Caltrans grant. Valley Water is contributing the required local cost share for the grant. The draft EIR was released for public review and comment on May 31, 2019. Four separate public hearings were held to obtain input from the public in East Palo Alto and Palo Alto in June and July of 2019. The planning phase will be complete upon the certification of the Newell Road Bridge Environmental Impact Report, which is estimated to be completed in summer 2019. The design is scheduled to be completed by the end of 2019. Construction is set to begin in summer 2021 and will be completed by the end of 2021.

Pope/Chaucer Street Bridge

- Pope/Chaucer Street Bridge design has resumed and is expected to be completed by early 2020. Construction is expected to begin in the summer of 2022, after construction of the channel improvements and Newell Road Bridge, and be completed by the end of 2022.

Financial Information

In FY19, 98% of the annual project budget was expended.

The expenditures included a Board-approved budget adjustment to increase the project contingency in order to close out the construction contract and to award the mitigation planting contract.

Financial Summary ($ Thousands)
E5. San Francisquito Creek

Fiscal Year 2018-2019						15-year Program	
Project No. and Name	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
		Actual	Encumbrance	Total			
26284001 Planning and Design (Highway 101 to Searsville Dam)	$113	$0	$0	$0	0%	$31,421	15%
26284002 Construction (SF Bay to Highway 101 and Upstream Elements)	$5,561	$5,026	$540	$5,566	100%	$48,672	93%
Total	**$5,674**	**$5,024**	**$540**	**$5,566**	**98%**	**$80,093**	**62%**

Opportunities and Challenges

Refined Modeling Shows Higher Flood Protection

As more years of data become available, flood estimates are refined and result in revisions of design flows. With several storm events in recent years and additional stream gauge data becoming available, Valley Water has updated its hydrology that now shows that improving stream channel capacity upstream of Highway 101 to contain 7,200 cfs would protect the community from an approximately 70-year flood event instead of previously estimated 30-year event. To accommodate further inflow downstream of Middlefield Road, Valley Water is using 7,500 cfs as a design flow for the project.

Schedule Adjustment

In FY19, the Board approved schedule adjustment for this project, extending the completion date to FY23. Due to the complex nature of the project, the SFCJPA and their environmental consultant required additional time to prepare the Draft Environmental Impact Report (DEIR), which was released on April 22, 2019. The EIR is expected to be finalized in the fall of 2019, which will incorporate the public's comments on the DEIR. The schedule adjustment also reflects the anticipated time that will be required for the SFCJPA to secure permits, easements, and additional funding necessary to begin construction. Given the complexities and uncertainties related to securing these items for a multi-jurisdictional project with substantial constraints, construction is not expected to begin until 2021 and will continue into the beginning of 2023.

Confidence Levels

Upstream of Highway 101 Project

Schedule: Moderate confidence

Prior to constructing the local-state-funding-only project, the EIR must be finalized, the USACE feasibility study must be completed, and state and federal regulatory permits must be secured.

Funding: Low confidence

While some funding has been secured for constructing the local-state-funding-only project elements (which include remedying channel constrictions and modifications to Newell Road Bridge and Pope/Chaucer Street Bridge), there is a funding shortfall due to increasing construction costs and currently unknown design elements. Upon completion of the USACE feasibility study, the SFCJPA will seek federal funding for the 1% flood protection project upstream of Highway 101. In addition, Valley Water continues to seek grant funding in partnership with the SFCJPA.

Permits: Moderate confidence

Valley Water does not expect any significant challenges with the acquisition of the regulatory permits for this phase of the project and is moderately confident it will receive the permits necessary to complete construction of the local-state-funding-only project by the Safe, Clean Water Program's identified completion date. The SFCJPA has conducted stakeholder meetings with regulators to address their concerns and incorporate their comments in the draft EIR to facilitate the permitting process.

Jurisdictional Complexity: High confidence

The jurisdictional complexity of this project is unparalleled among Safe, Clean Water projects, as this project requires cooperation with the SFCJPA and its member agencies, which include Valley Water, the cities of Palo Alto, East Palo Alto and Menlo Park and the San Mateo County Flood Control District. In addition, there are key project stakeholders, including USACE and Stanford University's Searsville Dam Project. Despite this, Valley Water has high confidence that the jurisdictions will continue to work together to accomplish the common goal of providing flood protection along San Francisquito Creek.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

BEFORE: SF Creek from East Bayshore.

AFTER: SF Creek from East Bayshore.

Upper Llagas Creek flooding.

ADJUSTED

Project E6 FY19 Highlights

- Phase 1 design work was completed and all the rights-of-way necessary for Phase 1 construction were acquired.
- For Phase 2, 100% Phase 2 design submittal is scheduled for completion in November 2019.

Project E6

Upper Llagas Creek Flood Protection Project Buena Vista Avenue to Wright Avenue – Morgan Hill, San Martin, Gilroy

Preferred project: A federal-state-local partnership

This project continues a Clean, Safe Creeks project in partnership with the U.S. Army Corps of Engineers (USACE) and the state to plan, design, and construct improvements along 13.9 miles of channel. The project extends from Buena Vista Avenue to Wright Avenue, including West Little Llagas Creek in downtown Morgan Hill. The federally authorized preferred project protects the urban area of Morgan Hill from a 1% (or 100-year) flood, and reduces the frequency of flooding in surrounding areas. Construction includes channel modifications and replacement of road crossings. Valley Water continues to work with Congress to aggressively pursue federal funds to bring this project to full fruition. In 2012, project limits were extended 2,700 feet upstream to Llagas Road to address public concerns.

Flooding History and Project Background

The area sustained damage in 1937, 1955, 1958, 1962, 1963, 1969, 1982, 1986, 1996, 1997, 1998, 2002, 2004, 2008, 2009, 2011 and 2017. In 2009, many businesses and residences in downtown Morgan Hill were flooded under 1 foot of water. The project builds on the planning, design and property acquisition initiated under the Clean, Safe Creeks plan of 2000.

Benefits

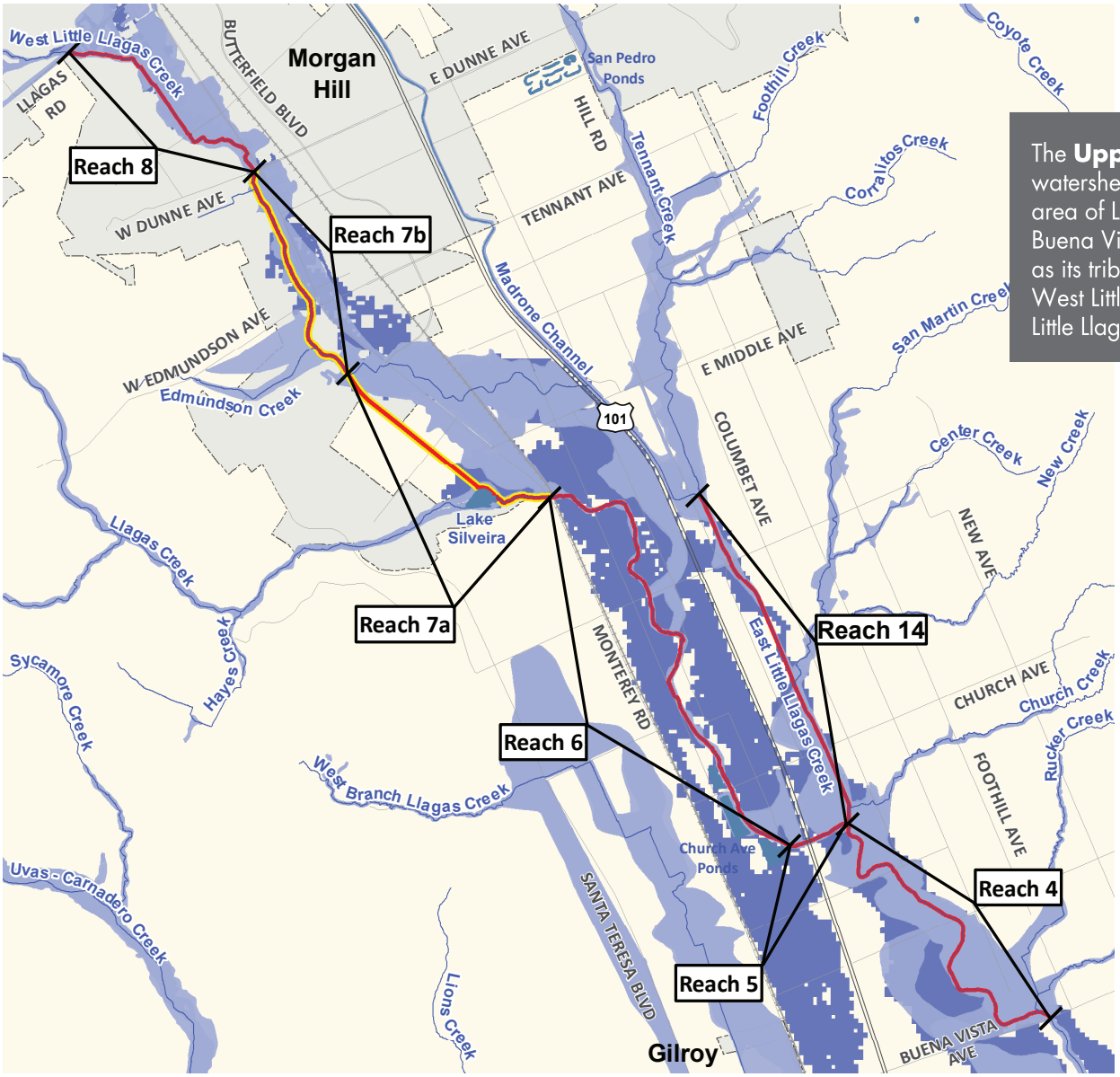
- Preferred project provides 1% flood capacity for 4 miles of channel in downtown Morgan Hill, protecting approximately 1,100 homes and 500 businesses
- Preferred project provides 10-year flood protection to approximately 1,300 agricultural acres in Morgan Hill, Gilroy and San Martin
- Locally-funded-only project provides 1% flood protection for a limited number of homes and businesses in Morgan Hill
- Improves stream habitat and fisheries
- Creates additional wetlands
- Improves stream water quality
- Identifies opportunities to integrate recreation improvements with the City of Morgan Hill and others as appropriate

Key Performance Indicators (15-year Program)

1. Preferred project with federal and local funding: Provide flood protection to 1,100 homes, 500 businesses, and 1,300 agricultural acres, while improving stream habitat.
2. With local funding only: Provide 100-year flood protection for Reach 7 only (up to W. Dunne Avenue in Morgan Hill). A limited number of homes and businesses will be protected.

Geographic Area of Benefit: Morgan Hill, San Martin and Gilroy

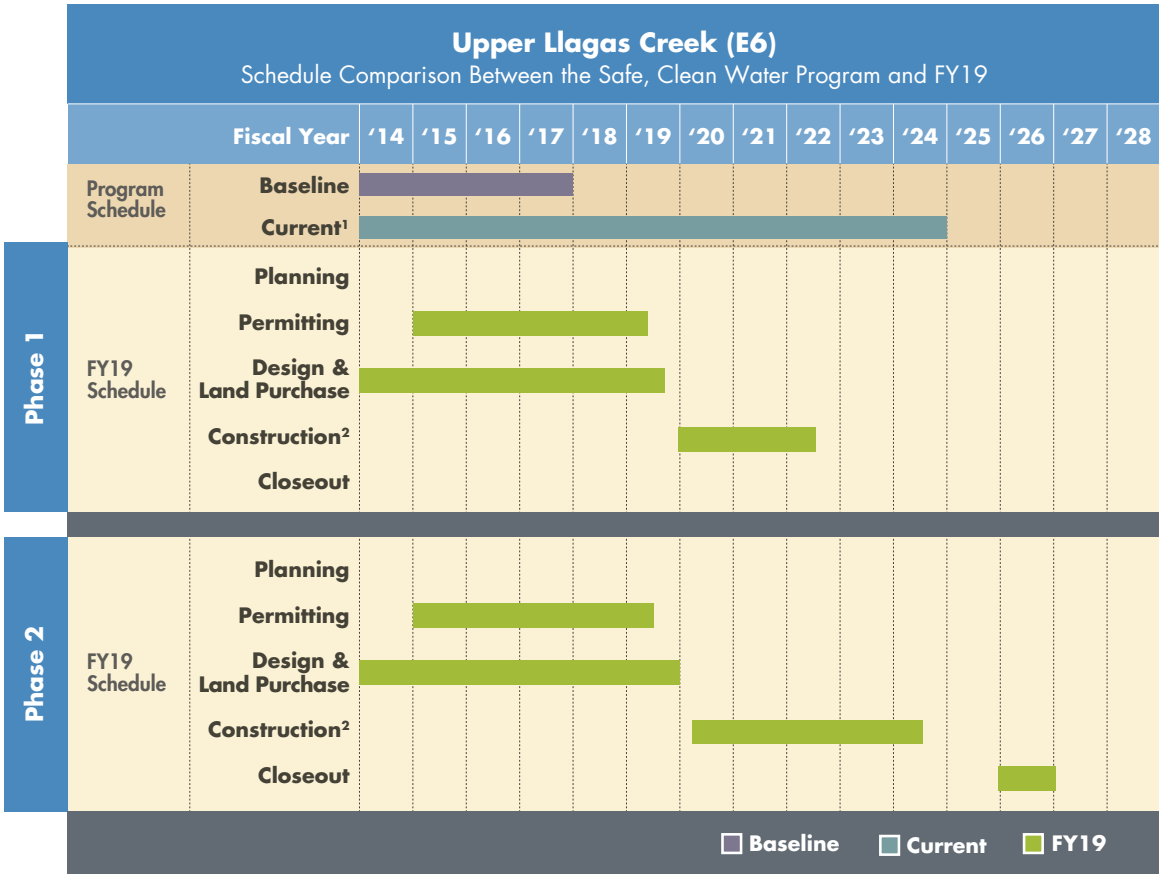
Project Location



The **Upper Llagas Creek** watershed encompasses the area of Llagas Creek north of Buena Vista Avenue as well as its tributaries, including the West Little Llagas and East Little Llagas Creeks.

Preferred Project (KPI #1)
Locally Funded Only Project (KPI #2)
Llagas Reach Endpoints
1% Flood Protection Zone (As of 2012)
Updated 1% Flood Risk Zone
Santa Clara County Cities
Santa Clara County

Schedule



[1] Board approved schedule adjustments through the change control processes in FY16, FY17 and FY19

[2] Construction also includes a 3-year revegetation establishment period, not shown.

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ADJUSTED
FY 16	ADJUSTED
FY 17	ADJUSTED
FY 18	ON TARGET

Status for FY19: ADJUSTED (Scheduled Adjustment)

Progress on KPI #1 and #2 (combined):

Phase 1 – Reaches 4, 5 (portion), and 7A (Buena Vista Avenue to Highway 101 in San Martin and from Monterey Road to Watsonville Road in Morgan Hill)

- The Phase 1 design work was completed in FY19.
- All the rights-of-way necessary for Phase 1 construction have been acquired.
- Phase 1 construction will begin in FY20, with completion of the Phase 1 flood protection improvements by FY22.

Phase 2 – Reaches 5 (portion), 6, 7B, 8 and 14 (Highway 101 to Monterey Road in San Martin, from Watsonville Road to Llagas Road in Morgan Hill, and from Sycamore Avenue to approximately Highway 101 in San Martin)

- 100% Phase 2 design submittal is scheduled for completion in November 2019.
- To date, 65 permanent rights-of-way of the 105 (76 permanent/29 temporary construction easements) necessary acquisitions for Phase 2 construction have been acquired. Valley Water continues to work on the remaining acquisitions to close escrow and record deeds required to advertise, award, and construct the Phase 2 flood protection improvements.
- Phase 2 construction will require an additional estimated $86 million from state subventions, federal, and/or Valley Water funding to complete construction. Phase 2 construction is currently estimated to begin in spring FY20 and scheduled to be completed by FY24.

Upon completion of Phase 2, the project will provide flood protection to 1,100 homes, 500 businesses and 1,300 agricultural acres, while improving stream habitat.

Phase 1 and Phase 2 Combined

- FEMA accepted the Conditional Letter of Map Revision (CLOMR) package on October 19, 2016. After the project has been constructed, Valley Water will prepare a Letter of Map Revision (LOMR) for the city to submit to FEMA to initiate a revision to the flood maps.
- Valley Water has acquired approximately 2,000 linear feet of stream channel and present-day Lake Silveira to implement the compensatory mitigation recommended by the U.S. Fish and Wildlife Service (USFWS). The construction of this mitigation element is planned during Phase 1 of construction.
- The project has received all permits from state and federal regulatory agencies.
- The project was approved and the Final Environmental Impact Report (Final EIR) was certified by the Valley Water Board on June 10, 2014. Valley Water will utilize the results of the California Rapid Assessment Method (CRAM) analysis to provide an assessment of the pre- and post-project environmental condition within the project reaches including the compensatory mitigation site, Lake Silveira. The analysis will also provide an assessment of the performance/success of the revegetation sites, and to demonstrate compliance with regulatory performance criteria and requisite targets. A draft report was completed and received by Valley Water in May 2016 for review. The final pre-project environmental condition report was completed in March 2017.

Financial Information

In FY19, 25% of the annual project budget was expended.

The real estate acquisitions project (KPIs #1 and #2) expended 93% of its FY19 budget. The construction project (KPIs #1 and #2) had 15% expenditure in FY19 for tasks related to future construction. Construction funding for Phase 1 is budgeted in this project and due to delays in real estate transactions and permitting, construction will begin in FY20. The project design was completed in FY19. As a result, no additional expenditures associated with the design component of KPIs #1 and #2 occurred in FY19.

Financial Summary ($ Thousands)
E6. Upper Llagas Creek

Fiscal Year 2018-2019						15-year Program	
Project No. and Name	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
		Actual	Encumbrance	Total			
26174051 Real Estate Acquisitions	$5,225	$4,850	$0	$4,850	93%	$146,583	22%
26174052 Construction	$18,946	$2,121	$661	$2,782	15%	$47,931	19%
26174054 Design	$6,170	$15	$0	$15	0%	$5,329	198%
Total	**$30,341**	**$6,986**	**$661**	**$7,646**	**25%**	**$199,842**	**26%**

Opportunities and Challenges

Schedule Adjustment

On June 25, 2019, the Board approved schedule adjustment for this project, extending the project completion date to FY24. The additional time was required to negotiate and acquire a 404 permit from the U.S. Army Corps of Engineers – Regulatory (USACE-Regulatory). As a result, the start of Phase 1 construction was delayed from FY19 to FY20. Phase 2 construction advertisement is anticipated by December 2019, upon completion of the remaining parcels to be acquired and completion of the final construction documents. As a result, the anticipated construction completion date of the Project (Phase 1 and Phase 2) has shifted from FY22 to FY24 (December 2023).

Environmental Impact Statement

The USACE issued the Final EIS in November 2018. The USACE signed the Record of Decision and issued a 404 permit to enable construction to proceed on March 26, 2019.

Confidence Levels

Phase 1 and Phase 2 of the project will be constructed independently.

Phase 1

Schedule: High confidence

Approximately 146 property acquisitions (Phase 1: 41 parcels; Phase 2: 105 (76 permanent/29 temporary construction) are required for the project. All parcels have been acquired for Phase 1. Phase1 construction is scheduled to begin in FY20 and complete in FY22.

Funding: High confidence

Fully funded through the Safe, Clean Water Program. KPI #2 calls for constructing Reach 7 only with local funding and Valley Water has the funding available to build this segment, which is split into Reach 7a and 7b. While Reach 7a will be constructed under Phase 1, Reach 7b will be built under Phase 2.

Jurisdictional Complexity: High confidence

The Phase 1 construction contract went out to bid at the end of FY19 and will be awarded at the beginning of FY20.

Phase 2

Schedule: Moderate confidence

Valley Water continues to work on the remaining Phase 2 acquisitions. Valley Water must obtain the necessary rights-of-way to be able to advertise Phase 2 of the project for construction. Phase 2 construction is currently estimated to begin in spring 2020 and scheduled to be completed in FY24.

Valley Water is moderately confident that property acquisitions will be completed allowing Phase 2 of the project to be advertised in calendar year 2019.

Funding: Moderate confidence

Valley Water will meet KPI #2 by constructing Reaches 7b as part of Phase 2 with local funding. It will pursue approximately $86 million in external funding through state subventions and federal funding to construct the remaining reaches of Phase 2, which encompasses the remaining portion of Reach of 5 and Reaches 6, 8 and 14.

Jurisdictional Complexity: High confidence

Given the size and complexity of this project, multiple agencies and entities have jurisdictional influence on its progression. These agencies include USACE, City of Morgan Hill, Santa Clara County Parks and Recreation, and County of Santa Clara Roads and Airports.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Chicago Marsh - S.F. Bay Shoreline.

ON TARGET

Project E7 FY19 Highlights

- For EIAs 1-10, met bi-weekly with the USACE to prepare a Feasibility Cost Share Agreement for the next study phase.
- Engaged San Francisco Estuary Institute to develop a visioning document for the Sunnyvale shoreline area.
- Continued to coordinate with the South Bay Salt Pond Restoration Phase 2 Project for Mountain View, EIAs 4 and 5, flood risk management levee.
- For Reach 1 of EIA 11, contributed $1,800,000 toward the EIA 11 project as part of the local share.
- Awarded a Round 2 grant for $57 million to Valley Water for construction of EIA 11 by the Restoration Authority.

Project E7

San Francisco Bay Shoreline Protection Milpitas, Mountain View, Palo Alto, San José, Santa Clara and Sunnyvale

This project is a partnership with the California State Coastal Conservancy, the U.S. Army Corps of Engineers (USACE), and regional stakeholders to provide tidal flood protection, restore and enhance tidal marsh and related habitats, and provide recreational and public access opportunities. Initial construction for flood protection is planned for Economic Impact Area (EIA) 11, which is the urban area of North San José and the community of Alviso.

This project relies on federal participation from USACE to review and approve the plans. Without federal participation, Valley Water cannot implement additional planning, design and construction due to limited available funding. The proposed Safe, Clean Water funding provides Valley Water's cost share to complete the planning study for EIAs 1-10, and provides a portion of Valley Water's cost share toward design and construction of flood protection improvements in the North San José area (EIA 11), in and near Alviso.

Flooding History and Project Background

This project stems from the 2003 acquisition of thousands of acres of former South Bay salt production ponds, purchased for restoration with combined public and private funding. The South Bay Shoreline Protection Project is an important component of the South Bay Salt Ponds Restoration Project, a large, multi-agency effort to restore 16,500 acres of tidal wetlands which involves all South Bay cities that meet the San Francisco Bay. Without incorporating flood protection measures, proposed recreational use and environmental restoration is likely to reduce the effectiveness of existing shoreline levees formerly maintained for salt production. Project E7 would upgrade levees to protect Silicon Valley's "Golden Triangle," bounded by Highways 101, 237 and 880, and extending north into the Baylands of Milpitas. Multiple flood events since the mid-1990s have damaged business operations in this area, now home to major high-tech corporations including Intel, Google, Yahoo, Cisco, and others. The project would also protect Alviso neighborhoods, as well as important infrastructure such as airports and sewage treatment plants.

The existing multi-agency partnerships for the South Bay Salt Ponds Restoration project and the San Francisco Bay Shoreline Study ensure that all goals for this largest wetland restoration on the West Coast will be incorporated. The Safe, Clean Water measure provides a share of the total funding needed for planning

and design phases for the full shoreline project area. It also provides the funding needed to purchase lands, easements and rights-of-way as necessary to construct improvements in EIA 11, and a share of the construction costs for that portion of the project.

Benefits

- Protects more than 1,000 residential structures and 100 non-residential structures (EIA 11)
- Provides planning and design to protect nearly 4,700 acres and more than 5,000 structures, including roads, highways, parks, airports and sewage treatment plants in all of Santa Clara County
- Allows for the restoration of 2,900 acres of tidal marsh and related habitats (EIA 11)
- Provides educational, recreational and public access opportunities

Key Performance Indicators (15-year Program)

1. Provide portion of the local share of funding for planning and design phases for the former salt production ponds and Santa Clara County shoreline area.
2. Provide portion of the local share of funding toward estimated cost of initial project phase (EIA 11).

Geographic Area of Benefit: Milpitas, Mountain View, Palo Alto, San José, Santa Clara and Sunnyvale

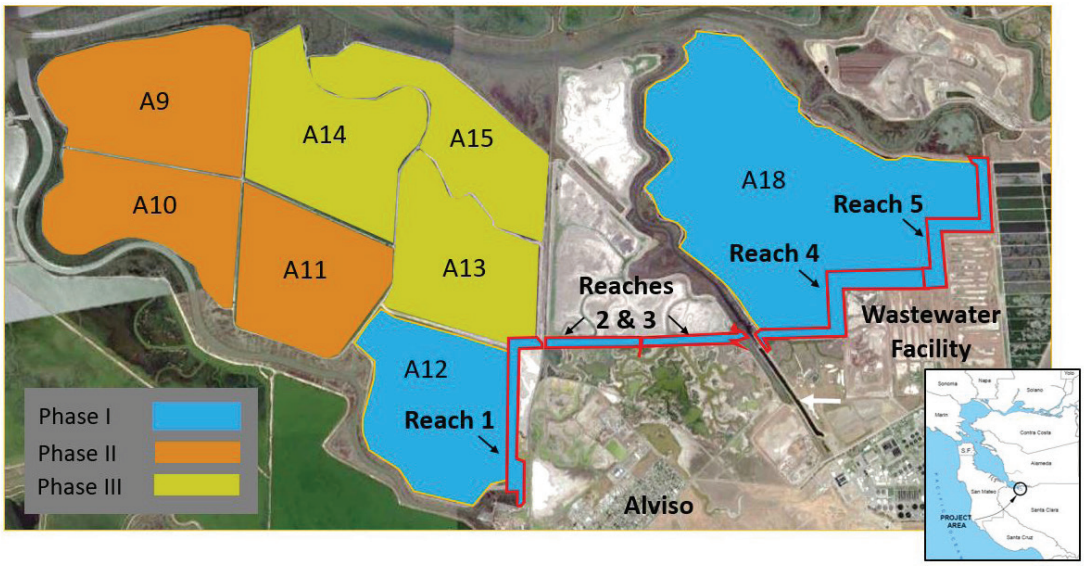
Project Location

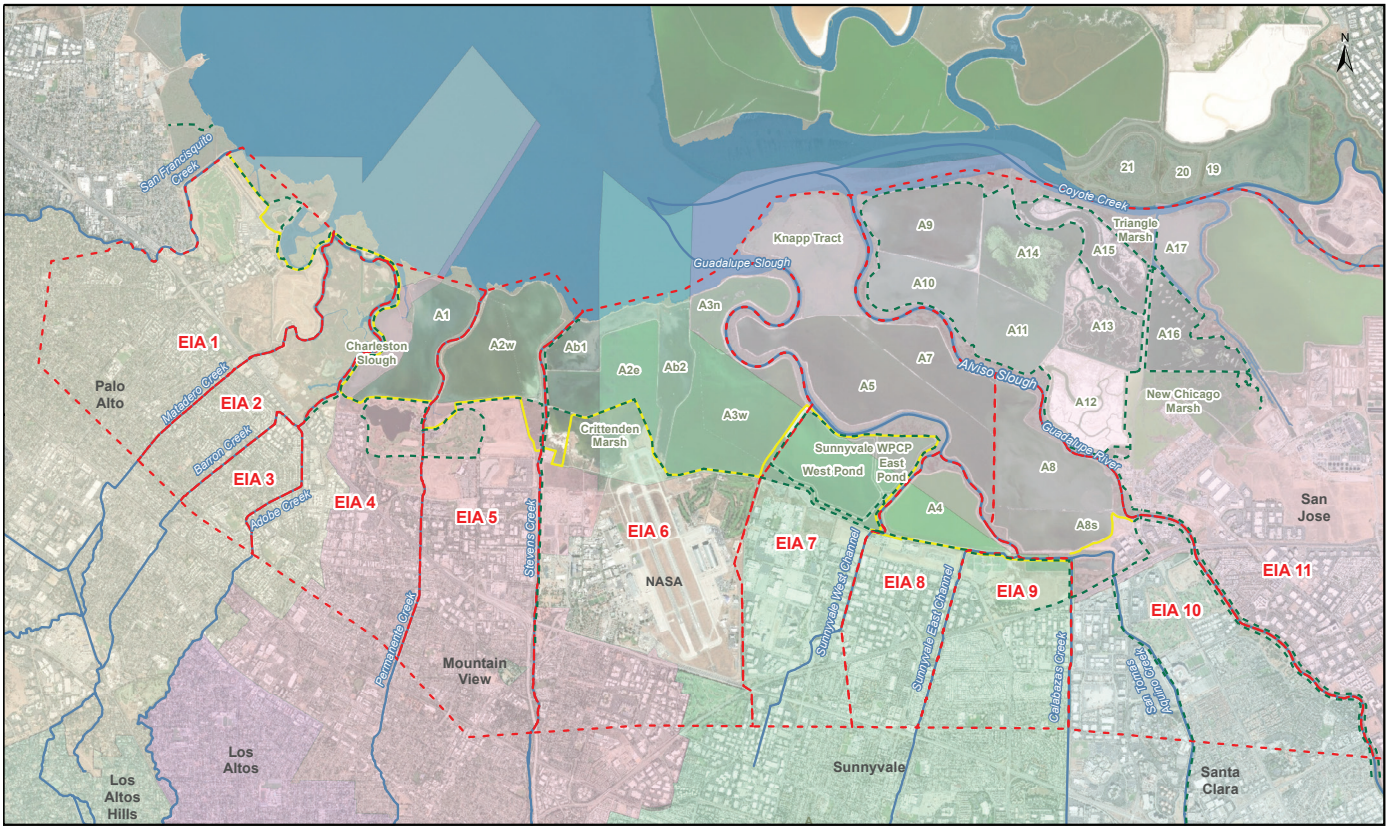
South San Francisco Bay Shoreline Protection
E1A 11 Project Construction Phases

Phase 1
(2019-2023)

Phase 2
(2027)

Phase 3
(2032)

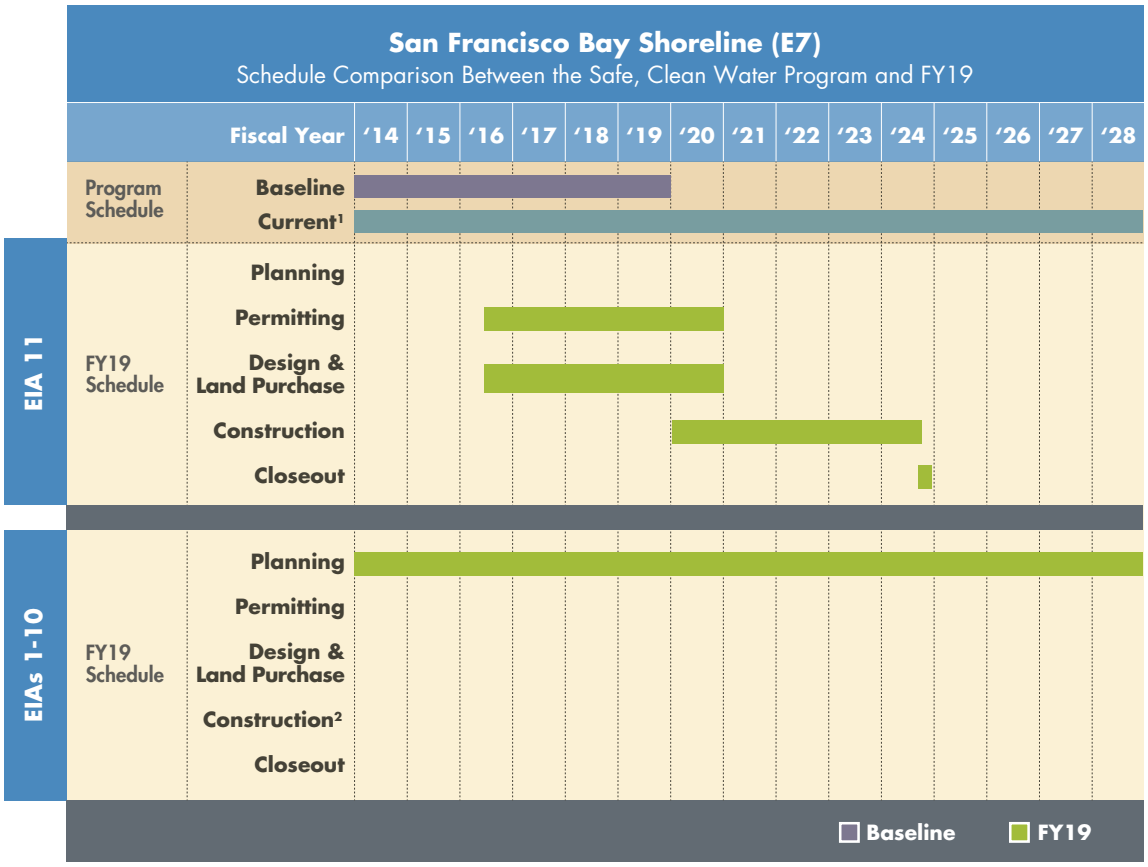




San Francisco Bay Shoreline (EIAs 1-10)
Preliminary Levee Alignment

Existing Trails
Shoreline EIAs 1-10 Prelim. Levee Alignment – under analysis
Economic Impact Area (EIA) Boundary
0 2,500 5,000 10,000 Feet
Approximate Scale

Schedule



[1]Board approved a schedule adjustment through the change control process in FY17.
[2] Construction phases are not funded by the Safe, Clean Water Program.

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ADJUSTED
FY 18	ON TARGET

Status for FY19: ON TARGET

Progress on KPI #1:

<u>San Francisco Bay Shoreline Protection – San Francisquito Creek to Guadalupe River (EIAs 1-10)</u>

- In November 2018, the USACE received $500,000 in federal funds to support Valley Water partnership efforts on the next study phase. Valley Water met bi-weekly with the USACE to prepare a Feasibility Cost Share Agreement (FCSA) for the next study phase. The FCSA will be signed by September 15, 2019. In addition, Valley Water has engaged San Francisco Estuary Institute (SFEI) to develop a visioning document

for the Sunnyvale shoreline area. The document, anticipated to be completed in December 2019, will be used to kickoff the USACE Feasibility Study efforts. In fall 2019, Valley Water anticipates using the Bay Restoration Regulatory Integration Team (BRRIT) process to engage regulators in the Feasibility Study.

- Valley Water is continuing to coordinate with the South Bay Salt Pond Restoration Phase 2 Project (SBSPRP) for the Mountain View, EIAs 4 and 5, flood risk management levee. Valley Water is also working with the SBSPRP for EIA 10, including exploring the re-routing of San Tomas and Calabazas creeks into Pond A8.

Progress on KPI #2:

San Francisco Bay Shoreline Protection – Urban area of North San José/Alviso/San José-Santa Clara Regional Wastewater Facility (EIA 11)

- As described in the KPI, the initial project phase under partnership with the USACE is for Economic Impact Area 11 (EIA 11). In November 2018, the USACE received the full design and construction funding of $177.2 million from the federal Bipartisan Act Disaster Supplemental Bill. On February 14, 2019, the project partners entered the Project Partnership Agreement for the Construction Phase. In FY19, Valley Water contributed $1,800,000 toward the EIA 11 project as part of the local share.
- For EIA 11, the project partners continued permitting coordination efforts with the San Francisco Bay Regional Water Quality Control Board (RWQCB) and the Bay Conservation Development Commission (BCDC). In December 2017, the project secured the RWQCB water quality certification permit for the authorized project alignment. In April 2019, the project secured the BCDC consistency determination (CD) amendment #2 for construction of the temporary Union Pacific Railroad crossing and Reaches 2 and 3 construction. Reach 1 CD was secured in January 2018 and Reach 1 design was finalized in June 2019. Valley Water continued to secure all necessary rights-of-way for Reach 1 construction and anticipated it to be 100% secured by September 2019. USACE will then need to certify the real estate and commence construction in late 2019. Reach 1 levee will extend from the Alviso Marina to the Union Pacific Railroad.
- In preparation for upcoming pre-construction activities, Valley Water secured a dirt broker in April 2019. The dirt broker is stockpiling up to 300,000 cubic yards of levee fill material in Pond A12. Fill delivery will continue until when the USACE takes over the site to begin construction.
- Lastly, in FY19 Valley Water submitted a second-round application for the San Francisco Bay's Restoration Authority Measure AA grant and on June 7, 2019, the Restoration Authority awarded Round 2 grant of $57 million to Valley Water for construction of EIA 11. This is in addition to the Round 1 grant funds of $4 million. The grant is expected to be disbursed over 5 years as USACE, U.S. Fish and Wildlife Services, California Coastal Conservancy, and Valley Water proceed with design and construction of EIA 11 of the Shoreline Project.

Financial Information

In FY19, 62% of the annual project budget was expended.

The San Francisco Bay Shoreline Protection, EIAs 1-10 project (KPI #1) expended 60% of its FY19 budget. FY19 budget was for Valley Water to prep and hold a workshop with the USACE and local jurisdictions in Fall 2018 to confirm the next EIAs to study followed by entering into a Feasibility Cost Share Agreement (FCSA) with the USACE in late 2018.

This did not occur due to project manager staffing limitations at both USACE and Valley Water as well as USACE funding limitation to conduct a workshop prior to entering into the FCSA. USACE and Valley Water did not secure project managers for the Phase II Feasibility Study effort until February 2019. As a result, from July 2018 to February 2019 minimal funds were expended. From February 2019 to June 2019, Valley Water worked with USACE to develop the FCSA. Valley Water also hired SFEI to develop a visioning document for the Sunnyvale shoreline area for the USACE Feasibility Study.

The San Francisco Bay Shoreline Protection, EIA 11 project (KPI #2) expended only 62% of its FY19 budget. FY19 budget was to support Reach 1 construction in summer 2018. Construction efforts have been delayed to fall 2019 because of additional time required to secure all necessary rights-of-way for Reach 1 construction. In FY19, Valley Water provided a total of $1,800,000 in cash to the USACE as Valley Water's cost-share for Reach 1, 2 and 3 design and permitting efforts. Valley Water also expended funds to acquire the Reach 1 rights-of-way and levee fill material.

Financial Summary ($ Thousands)
E7. San Francisco Bay Shoreline Protection

Fiscal Year 2018-2019						15-year Program	
Project No. and Name	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
		Actual	Encumbrance	Total			
26444002 EIAs 1-10	$237	$79	$63	$143	60%	$1,467	145%
26444001 EIA 11	$12,018	$3,358	$4,098	$7,456	62%	$22,288	45%
Total	**$12,255**	**$3,437**	**$4,162**	**$7,599**	**62%**	**$23,755**	**51%**

Opportunities and Challenges

Confidence levels

San Francisco Bay Shoreline Protection – San Francisquito Creek to Guadalupe River (EIAs 1-10)

Schedule: Moderate confidence

The USACE has received $500,000 to begin the Feasibility Study for the next study phase. The next study phase will begin to move forward in September 2019. However, Shoreline continues to be a large jurisdictionally complex project that may prove challenging to adhere to USACE's strict Feasibility Study milestone requirements without schedule delays.

Funding: Moderate confidence

KPI #1 is to provide the local cost share of the planning study for EIAs 1-10. However, while the study did receive the initial $500,000, an additional $1 million is still required from future federal budgets to complete the Feasibility Study efforts. In the current federal fiscal climate this may still be a challenge.

Permits: N/A

KPI #1 efforts do not require permits.

Jurisdictional Complexity: Low confidence

In developing a coastal flood protection levee alignment to move forward with the USACE, Valley Water is continuing to work with the cities of Palo Alto, Mountain View and Sunnyvale, along with the National Aeronautics and Space Administration's (NASA) Ames Research, United States Fish and Wildlife Service, California State Coastal Conservancy (SCC), Midpeninsula Regional Open Space District and USACE. This is an ongoing challenge because it requires extensive regional coordination for a significant coastal flood protection project with an estimated price tag of nearly $800 million. Currently Safe, Clean Water provides approximately $5 million for a portion of the local share of funding to support only planning efforts.

San Francisco Bay Shoreline Protection – Urban area of North San José/Alviso/San José-Santa Clara Regional Wastewater Facility (EIA 11)

Schedule: Moderate confidence

While the feasibility study for EIA 11 was completed in December 2015 and the project has received the full design and construction funds, because of the need to coordinate with the Union Pacific Railroad, our confidence level is moderate.

Funding: High confidence

KPI #2 is to provide the local cost share of design and partial construction; however, it is not sufficient to cover the total local cost share of design and construction for EIA 11 ($177 million of which $45 million is Valley Water's local cost share and $58 million is the SCC local cost share, which must be paid back to the USACE in a timely manner). Valley Water has secured a total of $15 million from Safe, Clean Water, and $61 million from the San Francisco Bay Restoration Authority Measure AA funds towards the total local share. Valley Water will continue to work with SCC to seek funds from other sources and grants. However, Valley Water will likely be able to complete this KPI in the next fiscal year.

Permits: Moderate confidence

Valley Water's confidence regarding permits is moderate due to complexities of receiving permits. The project partners continue to collaborate with the San Francisco Bay RWQCB and BCDC and have successfully received the required regulatory permits to construct Reach 1, 2, and 3 of EIA 11. Collaboration will continue through 2020 to negotiate permits for Reaches 4 and 5.

Jurisdictional Complexity: Moderate confidence

The confidence level is moderate due to the complexity involved in working with the City of San José (moderate), County Marina Parks (moderate), US Fish and Wildlife Service (moderate) the San José-Santa Clara Regional Wastewater Facility (moderate) and the Union Pacific Railroad (low).

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Upper Guadalupe River Reach 12.

ON TARGET

Project E8 FY19 Highlights

- For Reach 6, finalized the environmental document and the Board approved the gravel augmentation project at the July 23 Board meeting.
- For Reaches 7 and 8, purchased right-of-way from the City of San José at Willow Street and Alma Avenue for the proposed vehicular bridge improvements.

Project E8

Upper Guadalupe River Flood Protection Highway 280 to Blossom Hill Road – San José

Preferred project: A federal-state-local partnership

This federally authorized project continues a Clean, Safe Creeks project in partnership with the U.S. Army Corps of Engineers (USACE) to plan, design and construct improvements along 5.5 miles of channel extending from Interstate 280 to Blossom Hill Road. Improvements include channel widening, construction of floodwalls and levees, replacement of road crossings and planting of streamside vegetation. Reducing flood frequency and bank erosion will improve water quality, while planned mitigation measures will give fish access to an additional 12 miles of habitat within and upstream of the project reach.

Flooding History and Project Background

Damaging flood events occurred in 1982, 1983, 1986, 1995 and 1998. Severe flooding in 1995 damaged more than 150 homes in the Gardner, Willow Glen, and South San José residential districts, and shut down Highway 87 and the parallel light rail line – both major commuter thoroughfares. Freeway and light rail flooding occurred again in 1998.

The Upper Guadalupe River Flood Protection project was authorized construction by the USACE in 1999 and received local funding in 2000, followed by the start of construction in 2008. Fish passage, erosion protection and other components were constructed earlier.

To increase the level of flood protection while keeping the preferred project viable, the local-only plan funded by Clean, Safe Creeks was modified by Valley Water Board in March 2012 to provide a basis to advance the full federal project as soon as funds become available. The plan is now to acquire all necessary rights-of-way and relocate bridges and utilities in preparation for the full, preferred project. The modified plan also includes design and construction for both Reach 6 (Interstate 280 to the Union Pacific Railroad crossing) and Reach 12 (Branham Lane to Blossom Hill Road).

Benefits

- Preferred project will construct 1% (or 100-year) flood conveyance capacity for 5.5 miles of channel in San José, protecting approximately 6,280 homes, 320 businesses and 10 schools/institutions
- Local funding only constructs improvements to 4,100 linear feet to convey 1% flow
- Improves stream habitat values and fisheries

- Improves stream water quality
- Allows for creekside trail access

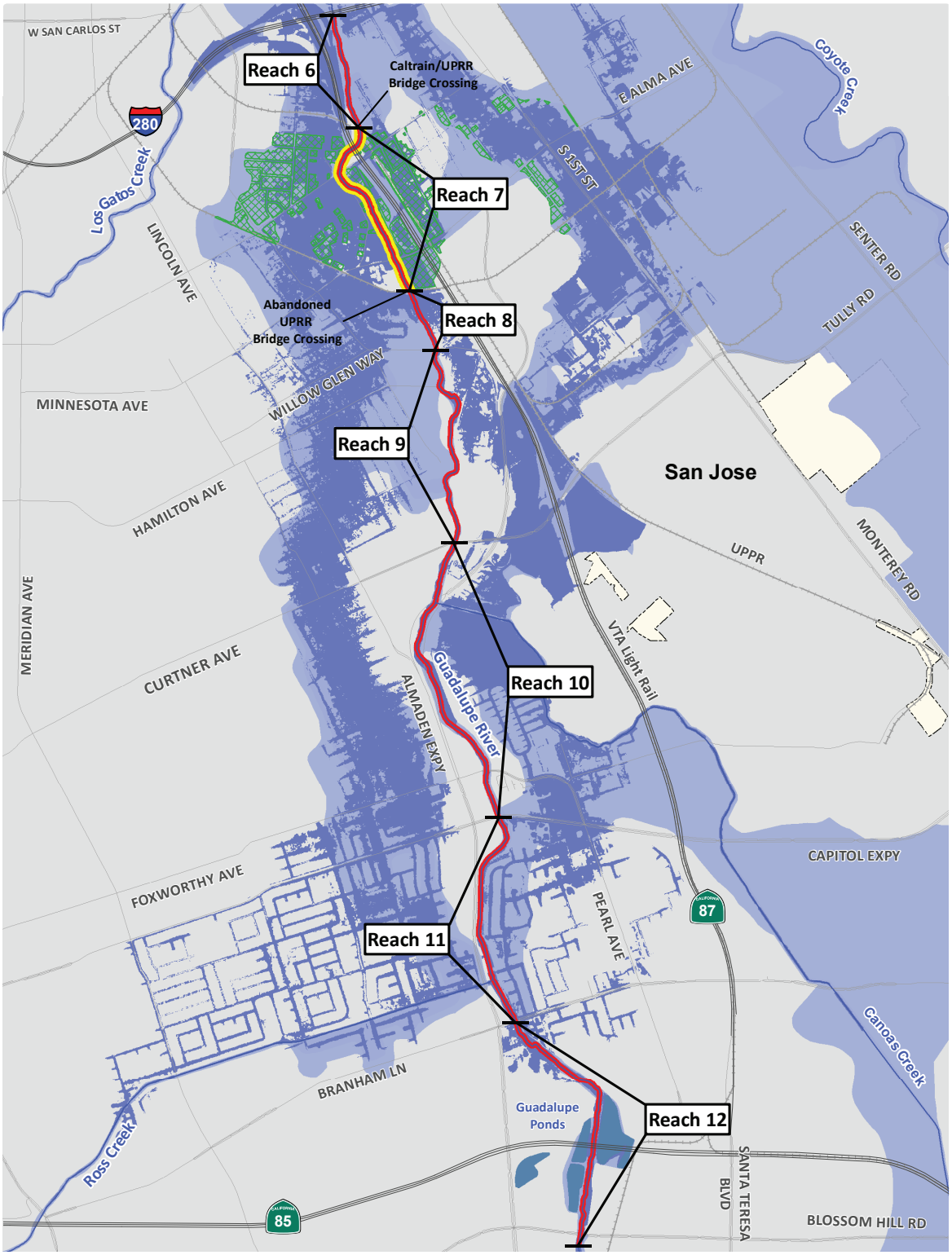
Key Performance Indicators (15-year Program)

1. Preferred project with federal and local funding: Construct a flood protection project to provide 1% flood protection to 6,280 homes, 320 businesses and 10 schools and institutions.

2. With local funding only: Construct flood protection improvements along 4,100 feet of Guadalupe River between Southern Pacific Railroad (SPRR) crossing, downstream of Willow Street, to Union Pacific Railroad (UPRR) crossing, downstream of Padres Drive. Flood damage will be reduced; however, protection from the 1% flood is not provided until completion of the entire Upper Guadalupe River Project.

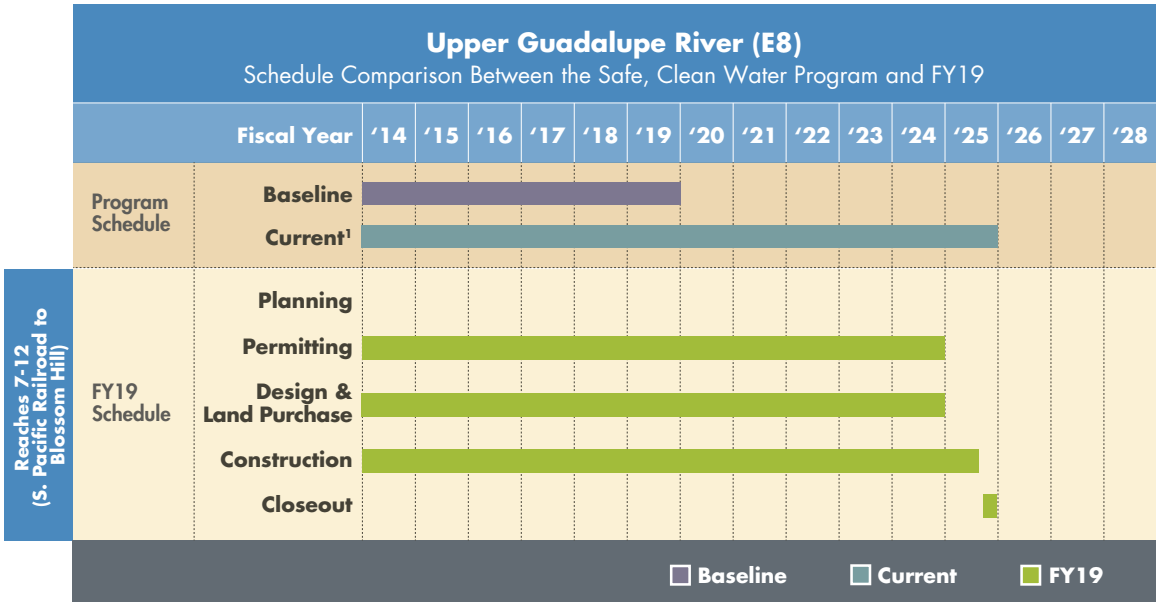
Geographic Area of Benefit: San José

Project Location



- Preferred Project (KPI #1)
- Locally Funded Only Project (KPI #2)
- Locally Funded Project Improvement Area
- 1% Flood Protection Zone (As of 2014)
- Updated 1% Flood Risk Zone
- Upper Guadalupe Reach Endpoints

Schedule



[1] Board approved a schedule adjustment through the change control process in FY16.

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ADJUSTED
FY 18	ON TARGET

Status for FY19: ON TARGET

While the locally funded project requires Valley Water to only construct flood protection improvements along Reach 7, Valley Water has used local funding under the Safe, Clean Water Program (and the preceding Clean, Safe Creeks Program) to complete Reaches 6, 10B and 12 and move the project forward. For more details, see Opportunities and Challenges segment.

Progress on KPI #1 and #2 (combined):

Reach 6 (from Interstate 280 to the UPRR bridge crossing downstream of Willow Street)

- Valley Water committed to complete a gravel augmentation project on this reach. Regulatory agencies suggested to reassess the gravel augmentation project in summer 2017 due to changes in the creek conditions after the rainy events. Valley Water expects to receive permits by fall 2019 and to complete construction on the gravel augmentation project by summer 2020.

Reaches 7 and 8 (from the UPRR bridge crossing downstream of Willow Street to Willow Glen Way)

- USACE completed 65% design documentation for Reaches 7 and 8, and the remaining design work has been postponed until federal funding is available.
- Construction contract for Reaches 7 and 8 has been postponed pending availability of funds.
- Valley Water recently purchased right-of-way from the City of San José at Willow Street and Alma Avenue for the vehicular bridge improvements. All other rights-of-way acquisitions for the project are suspended until the USACE completes updating the total project costs and determines a path for future federal funding.
- USACE is currently focusing on updating the total project costs to determine the path for future federal funding.

Reach 9 (from Willow Glen Way to Curtner Avenue)

- Valley Water has suspended acquiring the rights-of-way for the project because the USACE is currently focusing on updating the total project costs to determine the path for future federal funding.

Reach 10A (from Curtner Avenue to Almaden Expressway)

- Valley Water has suspended acquiring the rights-of-way for the project because the USACE is currently focusing on updating the total project costs to determine the path for future federal funding.

Reach 10B (from Curtner Avenue to Capitol Expressway)

- USACE awarded the contract for the mitigation planting work in October 2016.
- Mitigation planting work was completed in March 2018 by USACE.
- USACE was to maintain and monitor the site for the first three (3) years after plantings, following which Valley Water was to maintain the site. In FY19, because of lack of federal funding, Valley Water agreed to assume the responsibility earlier to ensure full establishment of the plants.

Reach 10C (from Koch Lane to Capital Expressway)

- Valley Water has suspended acquiring the rights-of-way for the project because the USACE is currently focusing on updating the total project costs to determine the path for future federal funding.

Reach 11 (from Capitol Expressway to Brahnam Lane)

- No changes in design since 2001. Valley Water has suspended acquiring the rights-of-way for the project because the USACE is currently focusing on updating the total project costs to determine the path for future federal funding.

Reach 12 (from Branham Lane to Blossom Hill Road)

- USACE awarded the contract for the mitigation planting work in October 2016.

- Mitigation planting work was completed in March 2018 by USACE.
- USACE was to maintain and monitor the site for the first three (3) years after plantings, following which Valley Water was to maintain the site. In FY19, because of lack of federal funding, Valley Water agreed to assume the responsibility earlier to ensure full establishment of the plants.

Financial Information

In FY19, 9% of the annual project budget was expended.

Reach 6 (I-280 to Southern Pacific Railroad) project (KPIs #1 and #2) expended 67% of its FY19 budget. The project was under expended due to additional time needed to refine the design based on input from the Guadalupe River Watershed Integration Working Group, which resulted in unspent construction funding. Valley Water plans to perform construction of Reach 6 in summer 2020, pending the acquisition of permits.

Reaches 7-12 (Southern Pacific Railroad to Blossom Hill Road) project (KPIs #1 and #2) expended 7% of its FY19 budget. The under-expenditure in FY19 was a result of not acquiring all the right-of-way for Reaches 8 and 9.

Financial Summary ($ Thousands)
E8. Upper Guadalupe River

Fiscal Year 2018-2019						15-year Program	
Project No. and Name	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
		Actual	Encumbrance	Total			
26154002 Reach 6 (I-280 to S. Pacific Railroad)	$829	$538	$17	$555	67%	$2,759	76%
26154003 Reaches 7-12 (S. Pacific Railroad to Blossom Hill)	$25,711	$1,831	($24)	$1,808	7%	$91,567	37%
Total	**$26,540**	**$2,369**	**($6)**	**$2,363**	**9%**	**$94,326**	**39%**

Opportunities and Challenges

Lack of Federal Funding a Major Challenge

Reaches 10B and 12 of the project were completed in 2015 and Reach 6 will be done with the completion of the gravel augmentation project by Summer 2020. Although the local-funded only project under KPI #2 requires the construction of Reach 7, Valley Water decided to finish Reach 6 to help advance the overall project and assume the responsibility of mitigation planting establishment and monitoring to ensure the plants are established. Meanwhile, USACE has completed 65% design documentation for Reaches 7 and 8, and the remaining work on these and Reaches 9, 10A, 10C and 11 is postponed until USACE re-evaluates the total project costs. The USACE re-evaluation is expected to be completed in FY20. Meanwhile, Valley Water does have adequate local funding to complete Reach 7 and build the local-only funded project.

Confidence Levels

Reach 6 (I-280 to S. Pacific Railroad) Project

Schedule: Moderate confidence

The schedule could be affected due to challenges in obtaining the regulatory permits.

Funding: High confidence

This project is fully funded by the Safe, Clean Water Program.

Permits: Moderate confidence

Valley Water is working on acquiring state and federal regulatory permits for the Reach 6 gravel augmentation project.

Jurisdictional Complexity: High confidence

Valley Water has jurisdiction over this reach and all the design elements.

Reaches 7-12 (S. Pacific Railroad to Blossom Hill) Project

Schedule: Low confidence

The schedule has been affected due to USACE not receiving federal funding over the last five (5) years, which has delayed design and construction efforts for Reaches 7 & 8.

Funding: Low confidence

Federal funding appropriation continues to be the main challenge for this project. The project did not receive federal funds in FY19 for design and construction of all elements of Reaches 7 and 8. The USACE will be evaluating the total project costs over the 2019-20 calendar year. Valley Water will need to continue working with USACE leadership and federal elected officials to encourage federal appropriations for the design and construction of the remaining reaches of the project.

Permits: Moderate confidence

For Reaches 7 and 8, USACE will acquire all the required permits to construct the current design. In Reaches 9, 10A, 10C and 11, since the design has not begun, permits are not needed until the design has been completed.

Jurisdictional Complexity: Low confidence

As a local sponsor, Valley Water is responsible to acquire all the right-of-way and relocation of utilities. Even after Valley Water acquires easements or joint use agreements for the project from Caltrans, the Joint Power Board/Caltrain and the City of San José, these agencies will continue to have jurisdiction over the Upper Guadalupe Flood Protection Project.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Other Capital Flood Protection Projects and Clean, Safe Creeks Grants Projects

On November 6, 2012, voters approved the Safe, Clean Water Program as a countywide special parcel tax for 15 years with a sunset date of June 30, 2028. This program replaced the Clean, Safe Creeks and Natural Flood Protection Plan, which voters approved in November 2000.

The following projects below were carried forward and fully transitioned into the Safe, Clean Water Program. The financial information reported herein includes only the funds that were carried forward and the expenditures made since the onset of the Safe, Clean Water Program.

Permanente Creek Flood Protection
San Francisco Bay to Foothill Expressway – Mountain View

Sunnyvale East and Sunnyvale West Channels Flood Protection
San Francisco Bay to Inverness Way and Almanor Avenue – Sunnyvale

Berryessa Creek Flood Protection
Calaveras Boulevard to Interstate 680 – Milpitas and San José

Coyote Creek Flood Protection
Montague Expressway to Tully Road – San José

Calabazas Creek Flood Protection
Miller Avenue to Wardell Road

Clean, Safe Creeks Grants Projects

Rancho San Antonio detention basin construction.

ADJUSTED

Project FY19 Highlights

- Completed Channel Improvements construction in December 2018.
- Continued construction of the Rancho San Antonio and McKelvey Park detention sites.

Permanente Creek Flood Protection

This project will provide flood protection for thousands of homes and businesses in Mountain View and Los Altos, create recreational opportunities and enhance the environment. The project spans 10.6 miles of Permanente Creek, from San Francisco Bay's southwest shoreline through Mountain View to Foothill Expressway in Los Altos. The project uses a natural flood protection approach to prevent potential flooding damages in excess of $48 million (1999 value). The project includes multiple elements: channel improvements; flood detention area and recreational improvements at City of Mountain View's McKelvey Park; and flood detention areas, recreational improvements and enhanced habitat at County of Santa Clara's Rancho San Antonio Park.

Benefits

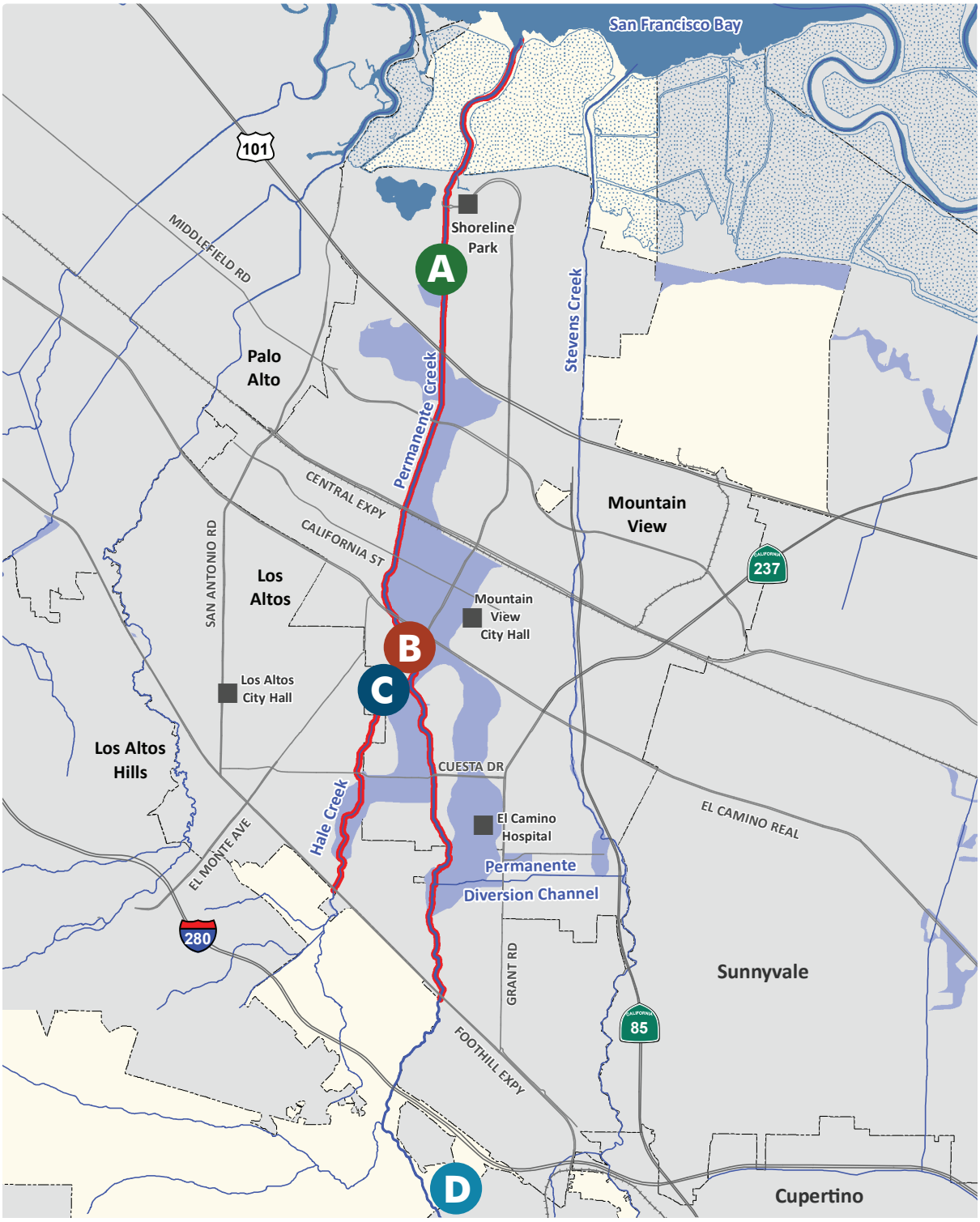
- Provides flood protection to a minimum of 1,664 parcels (1,378 homes, 160 businesses and 4 schools/institutions) downstream of El Camino Real from a 1% (or 100-year) flood
- Prevent flooding of Middlefield Road and Central Expressway
- Minimize the future cost for maintenance
- Provide opportunities for environmental enhancements and trail extension

Key Performance Indicator (5-year Implementation Plan)

1. Provide flood protection to 1,664 parcels downstream of El Camino Real, including Middlefield Road and Central Expressway.

Geographic Area of Benefit: Mountain View and Los Altos

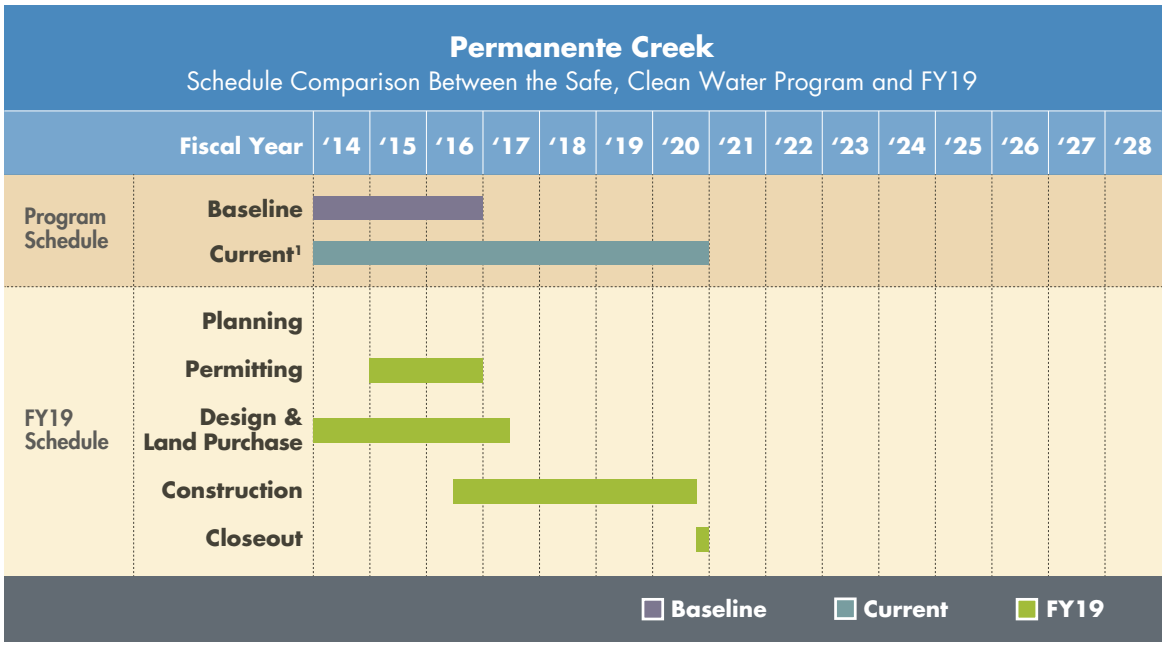
Project Location



- Project Location
- 1% Flood Protection Zone (As of 2016)
- Santa Clara County Cities
- Santa Clara County

- A Floodwalls and levees north of U.S. Highway 101
- B Flood detention area at City of Mountain View's McKelvey Park
- C Widening & deepening of existing channels along Permenente & Hale Creeks
- D Flood detention areas at County of Santa Clara's Rancho San Antonio Park

Schedule



[1] Board approved a schedule adjustment through the change control process in FY16 and FY19.

Status History

Fiscal Year	Status
FY 14	ADJUSTED
FY 15	ADJUSTED
FY 16	ADJUSTED
FY 17	ON TARGET
FY 18	ON TARGET

Status for FY19: ADJUSTED (Schedule Adjustment)

Progress on KPI #1:

- Continued construction of the Rancho San Antonio detention site, with completion scheduled for spring 2020.
- Continued construction of the McKelvey Park detention site, with completion scheduled for fall 2019.
- Completed Channel Improvements construction in December 2018. The Board accepted the work in March 2019.

Financial Information

In FY19, 110% of the annual project budget was expended.

The over-expenditure was due to unanticipated costs resulting from costs associated with an archaeological

discovery which delayed construction of the Rancho San Antonio detention site and from additional costs associated with construction of the McKelvey Park detention site. On March 12, 2019, the Board approved a budget adjustment in the amount of $708,000 to increase the Permanente Creek Channel Improvements construction contract contingency sum and included additional funds to cover unanticipated labor, services and supplies costs for the overall Permanente Creek Project.

Financial Summary ($ Thousands)
Permanente Creek Flood Protection

Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$7,690	$5,695	$2,788	$8,483	110%	$76,572	96%

Opportunities and Challenges

Confidence Levels

Schedule: High confidence

Construction is expected to last for another year, with completion scheduled for spring 2020. The McKelvey Park detention basin and channel improvements is occurring in heavily urbanized areas and Valley Water will continue to coordinate closely with the cities of Mountain View and Los Altos and other affected utilities during construction. However, there were some delays due to the PG&E utility relocation work. The Rancho San Antonio detention basin is being constructed at an undeveloped area of a county park. Due to an unexpected archaeological discovery, construction was halted in February 2018 and resumed in June 2019. Other challenges at the Rancho San Antonio detention basin include the presence of the threatened California red-legged frogs and nesting birds at the project site.

Funding: High confidence

The adjusted Safe, Clean Water 15-year project allocation, including FY18 encumbered balance, is $73.7 million. The project expended 100% of the FY19 budget.

Permits: High confidence

Although all the required permits were acquired prior to the start of construction, the unexpected archaeological discovery at Rancho San Antonio required the re-authorization of the USACE permit. The re-authorization of the USACE permit was received in June 2019 and construction was resumed.

Jurisdictional Complexity: High confidence

The McKelvey Park detention basin is being constructed on City of Mountain View property and the Rancho San Antonio detention basin is being constructed on Santa Clara County Parks property that is currently managed by Midpeninsula Regional Open Space District. Despite the high jurisdictional complexity, Valley Water's confidence is high due to close coordination with all the stakeholders.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Sunnyvale East and Sunnyvale West Channels Flood Protection Projects

San Francisco Bay to Inverness Way and Almanor Avenue – Sunnyvale

In the early stages of the project design process, Valley Water project team decided to join both improvement projects into a single flood protection project with a single Environmental Impact Report (EIR) to reduce construction costs and minimize construction coordination issues between the 2 channels.

The West Channel extends approximately 3 miles and upgrades existing channel capacity to provide 1% (or 100-year) riverine flood protection for 47 acres of highly valuable industrial lands, including the Onizuka Air Force Base. The East Channel extends approximately 6.4 miles and upgrades existing channel capacity to provide 1% riverine flood protection for 1,618 parcels. Both projects decrease channel turbidity and sediment by repairing erosion sites, thereby improving water quality.

Benefits

- Provides 1% flood capacity for approximately 6.5 miles of channel along Sunnyvale East and approximately 3 miles of channel along Sunnyvale West within the City of Sunnyvale, protecting 1,618 properties (Sunnyvale East) and 47 acres (11 properties) of industrial land (Sunnyvale West)
- Improves stream water quality, by providing erosion control measures to decrease sediment and turbidity
- Identifies opportunities to integrate recreation improvements with the City of Sunnyvale and others as appropriate

Key Performance Indicator (5-year Implementation Plan)

1. Provide riverine flood protection for 1,618 properties and 47 acres (11 parcels) of industrial land, while improving stream water quality and providing for recreational opportunities.

Geographic Area of Benefit: Sunnyvale

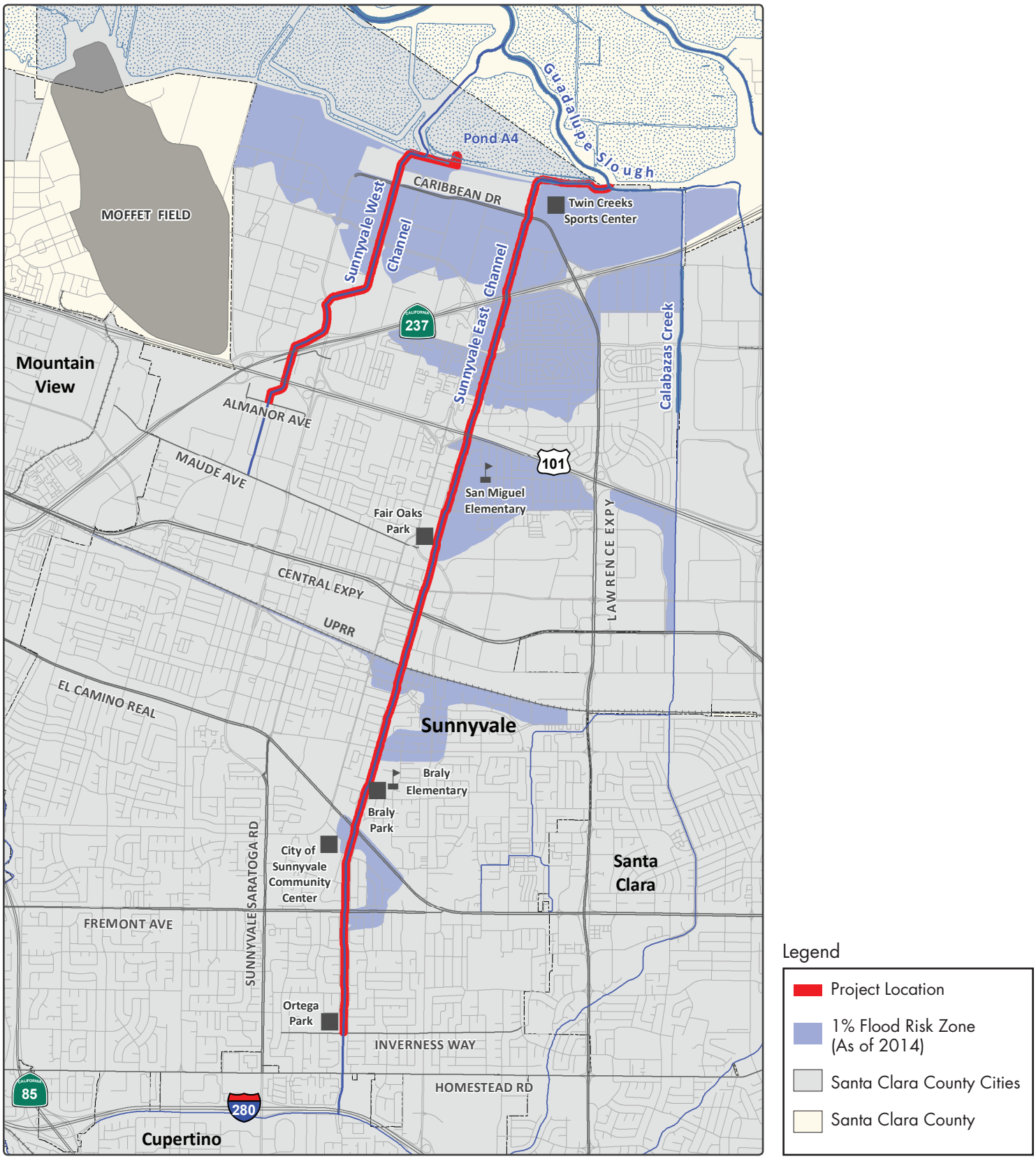
Sunnyvale East Channel (looking south).

ADJUSTED

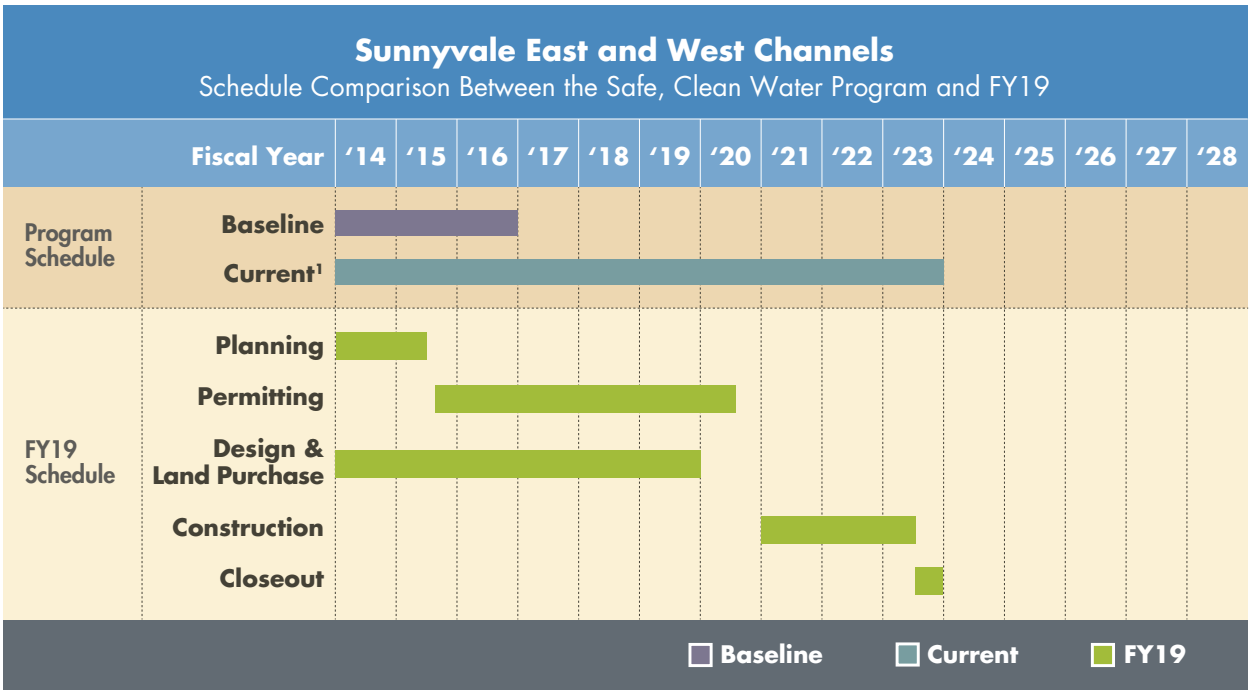
Project FY19 Highlights

- Continued work on the 100% design, which is expected to be completed by December 2019.
- Continued work on acquiring a parcel or leasing agreement from the adjacent properties owner for construction staging, as well as temporary construction easements.
- Submitted all the required permit applications in June 2017 and continued negotiations to acquire the necessary permits.

Project Location



Schedule



[1]Board approved schedule adjustments through the change control process in FY16, FY18, and FY19.

Status History

Fiscal Year	Status
FY 14	ADJUSTED
FY 15	ADJUSTED
FY 16	ADJUSTED
FY 17	ON TARGET
FY 18	ADJUSTED

Status for FY19: ADJUSTED (Schedule Adjustment)

Progress on KPI #1:

- 100% design is underway and is expected to be completed by December 2019 when the City of Sunnyvale and Resource Agency permit comments are incorporated.
- To date, five (5)permanent rights-of-way and four (4) temporary staging area easements, all necessary for project construction, have been acquired. Valley Water continues to work on acquiring a parcel or leasing agreement from the adjacent properties owner for construction staging, as well as temporary construction easements from Santa Clara County and San Francisco Public Utilities Commission (SFPUC). All leasing agreement acquisitions are anticipated to be final by September 2019.
- Valley Water submitted all required permit applications in June 2017 to the various state and federal regulatory agencies, and is currently in negotiations with these agencies to acquire the necessary permits.

These activities are expected to be finalized by December 2019, which would allow project construction to begin in 2020 and be complete in 2022.

- On April 24, 2018, Valley Water's Board of Directors approved a Memorandum of Understanding (MOU) with Google, LLC (Google) to form a partnership. Subsequently, a cost-sharing agreement with Google will be negotiated after Google has complied with CEQA requirements for their proposed project modifications. The City of Sunnyvale is acting as the lead agency for CEQA for these proposed modifications. Google has acquired property on both sides of a segment of the Sunnyvale West Channel upstream of Caribbean Drive. Google is proposing a design change along an approximately 1,100 linear feet of the Sunnyvale West Channel as part of their proposed site development for Google Caribbean Campus Project to construct a wider channel with in-channel mitigation opportunities by constructing larger setback levees without floodwalls, to enhance public access, and to possibly accelerate receipt of regulatory permits, while maintaining Valley Water's project objectives. Valley Water's project has been delayed due to the additional time needed to incorporate potential design changes as a result of the Google MOU and continuing negotiations with the various regulatory agencies.
- The Board approved schedule adjustments for this project through the Change Control Process in FY16, FY18 and FY19.

Financial Information

In FY19, 13% of the annual project budget was expended.

The budget included funding for construction; however, due to delays in determining suitable and appropriate project mitigation for submission in the permit applications, on-going negotiations with the various Resource Agencies to secure permits and incorporating the Google proposed design changes, the start of construction has been delayed and these funds were not utilized.

Financial Summary ($ Thousands)
Sunnyvale East & West Channels Flood Protection

Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$9,743	$1,236	$0	$1,236	13%	$58,936	14%

Opportunities and Challenges

Schedule adjustment

On June 25, 2019, the Board approved a schedule adjustment for this project, extending the project completion date to FY23. The schedule adjustment is due to the additional time needed to incorporate design changes as a result of the Valley Water-Google partnership along a portion of the existing Sunnyvale West Channel, and continuing

negotiations with the various regulatory agencies regarding permit acquisition. These activities are expected to be finalized by in late FY20 (March 2020), which would allow project construction to begin in late FY20 (June 2020) and be complete in FY23 (December 2022).

Confidence levels

Schedule: Moderate confidence

Valley Water continues to work on acquiring the temporary rights-of-way acquisitions needed for construction and executing the necessary relocation agreements with the various utility owners. These activities are expected to be finalized in December 2019, which would allow project construction to begin in mid-2020. The design is 100% complete, with the exception of incorporation of the pending permit conditions into the construction documents. Permanent rights-of-way required for the project have been acquired.

Sunnyvale East Channel

The most significant schedule challenge is the phased construction timeline to replace the existing Caribbean Drive Bridge with a new triple reinforce concrete box (RCB) culvert and the relocate existing utilities crossings the bridge. The Caribbean Bridge currently conveys multiple utilities, including a 12-inch water and reclaimed water lines, multiple AT&T fiber optic lines and PG&E power lines. Coordination with AT&T and PG&E to relocate fiber optic lines and temporary relocate power lines are ongoing and expected to be finalized before construction begins. Valley Water had previously requested the City of Sunnyvale to consider allowing a complete closure of Caribbean Drive to avoid a 2-year construction window, expensive detours, lane closure, public safety and other concerns that are involved with a partial closure. The City of Sunnyvale elected to require Valley Water to phase the construction with a partial closure of Caribbean Drive, thus requiring a 2-year construction window.

Sunnyvale West Channel

The most significant schedule challenge is coordinate of the Carl Road RCB culvert construction with the City of Sunnyvale Water Pollution Control Plant (WPCP). Carl Road crossing serves as the only access to portions of the WPCP outlet pond facilities and the west landfill. In addition, vital landfill gas extraction lines and city sanitary sewer vitrified clay pipe (VCP) mains cross the existing Carl Road culvert and are required to remain in service 24 hours/7 days a week. To minimize the risk of damaging the two existing VCP sewer lines during the construction of the RCB, the sewer lines will be replaced with a single 36-inch sewer line.

In addition, Valley Water is working and coordinating with Google on a proposed enhancement effort along 1,100 linear feet of the Sunnyvale West Channel as part of the proposed site development of Google's Caribbean Campus Project. Google is currently in the process, with the City of Sunnyvale as the CEQA lead agency, of completing the necessary CEQA documents. Once the CEQA review process is completed (anticipated to be completed in December 2019), Valley Water and Google will execute a cost-sharing agreement for this enhancement project along the West Channel.

Funding (combined): High confidence

This project is fully funded by the Safe, Clean Water Program. The potential Valley Water/Google cost-sharing agreement will have Valley Water agree to contribute to the Google project, the estimated amount Valley Water

would have spent if Google had not proposed their project. Therefore, the Valley Water/Google cost-sharing would result in no additional construction costs for the Valley Water's project.

Permits (combined): Moderate confidence

The most significant overall challenge faced by the project is securing the necessary regulatory agency permits in a timely manner to proceed with construction. Valley Water submitted all the required permit applications in June 2017 to the various state and federal regulatory agencies, and is currently in negotiations with these agencies to acquire the necessary permits. Google has submitted their required permit applications to the required resource agencies for the enhancement portion of the West Channel. Upon receipt of the various regulatory agency permits, permit conditions and requirements will have to be incorporated into the Final Construction Documents before the project can be advertised for construction.

The Sunnyvale East and West Channels were man-made storm drain systems constructed by Valley Water in the 1950's and 1960's. Both channels have no naturally occurring headwaters, resulting in extremely limited existing channel vegetation; the project's environmental impacts are expected to be minimal. Valley Water's recent discussions with the San Francisco Bay Regional Water Quality Control Board (Regional Board) indicate there are some significant differences of opinion regarding the existing beneficial uses and overall project impacts of Sunnyvale East and West Channels. Valley Water is actively working with the Regional Board to attempt to resolve these differences and reduce the project impacts to the extent possible.

Jurisdictional Complexity (combined): High confidence

The entire project is within the limits of the City of Sunnyvale. Valley Water has coordinated the planning and design efforts by forwarding to the city the 30%, 60%, and 90% design submittals for review and comment. Valley Water has worked with the city to purchase the necessary project rights-of-way, including temporary staging areas. Valley Water and the city have also executed a cost sharing agreement for the construction of public trails as part of the project, and have executed a Joint Use Trail Agreement.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Completed Trestle Bridge along Upper Berryessa Creek.

COMPLETED

Project FY19 Highlights

- USACE completed mitigation plant installation.
- Continued working on permit requirements regarding on-site mitigation, post construction storm water management plan, adaptive management plan, and project completion from the San Francisco Bay Regional Water Quality Control Board and anticipate having them completed by spring 2020.
- USACE completed the draft Operations and Maintenance Manual and Valley Water provided review comments. Anticipate the final Operations and Maintenance Manual by winter 2020.

Berryessa Creek Flood Protection

Calaveras Boulevard to Interstate 680

This project is a partnership with the U.S. Army Corps of Engineers (USACE) to plan, design and construct flood improvements to protect homes in Milpitas and San José, as well as Silicon Valley's commercial district, from a 1% (100-year) flood flow. The Bay Area Rapid Transit (BART) 10-mile extension project spans from Warm Springs Station in Fremont to the North San José Berryessa area. The new Milpitas Station is underground and is located in the Berryessa Creek floodplain. The Berryessa Creek project's completion is critical to the BART extension's planned operations.

Benefits

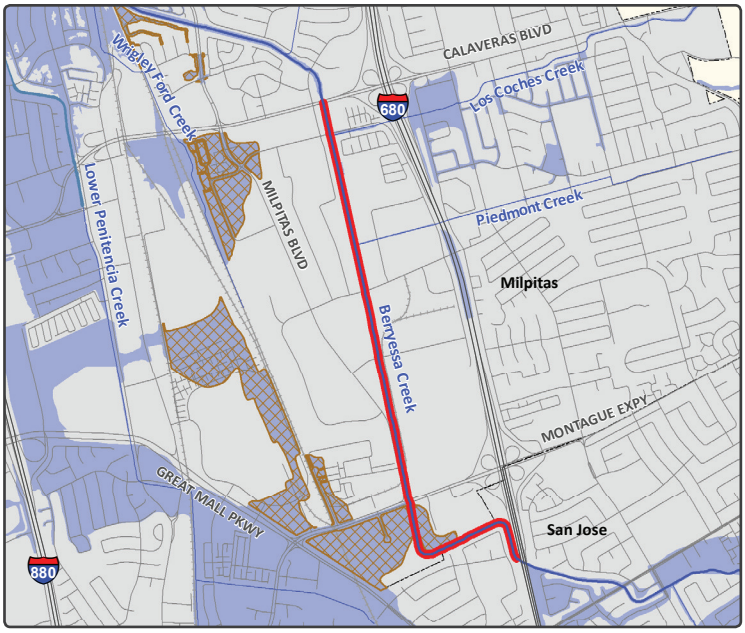
- Protects up to 1,662 businesses and homes in Milpitas and San José from a 1% flood, saving potential damages in excess of $527 million
- Provides protection for more than 30 miles of streets including Highway 237 and Montague Expressway

Key Performance Indicators (5-year Implementation Plan)

1. Local and federal funding flood damage reduction for 1,662 parcels, including 1,420 homes, 170 businesses, and 5 schools/institutions.
2. Using local funds only, a reduced project would extend from the confluence with Lower Penitencia upstream to Montague Expressway, modifying 2 miles of channel and protecting approximately 100 parcels.

Geographic Area of Benefit: Milpitas and San José

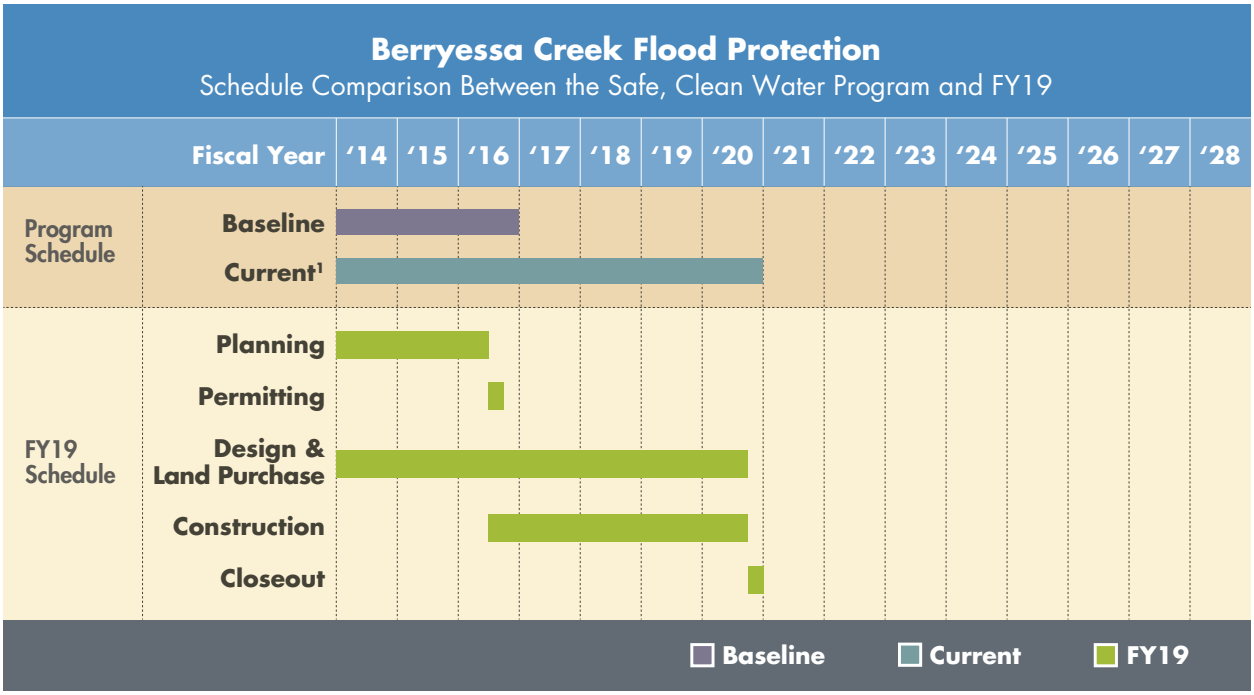
Project Location



Legend

- Project Location
- 1% Flood Risk Zone (As of 2014)
- Flood Protection Provided
- Santa Clara County
- Santa Clara County Cities

Schedule



[1]Board approved a schedule adjustment through the change control process in FY16.

Status History

Fiscal Year	Status
FY 14	ADJUSTED
FY 15	ON TARGET
FY 16	ADJUSTED
FY 17	ON TARGET
FY 18	COMPLETED

Status for FY19: COMPLETED

Progress on KPI #1 and #2 (combined):

This project was completed in FY18 with delivery of KPI #1, which included the channel improvements and the Montague Expressway bridge replacement as the two main elements of the project. In January 2019, the USACE installed the on-site mitigation planting. In FY19, Valley Water and the USACE continued working on permit requirements regarding on-site mitigation and project completion from the San Francisco Bay Regional Water Quality Control Board and anticipate having them completed by winter 2020. The off-site mitigation has not been resolved yet and is on-going.

Valley Water plans to reconcile the project cost balance with our partner agencies by December 2019.

Financial Information

In FY19, 10% of the annual project budget was expended.

While KPI #1 was delivered in FY18 and the mitigation planting was completed in FY19, the project cost balance is still being finalized with the project partners and agreement obligations. Valley Water plans to finalize the project costs with its partner agencies by December 2019. This includes finalizing the costs with the USACE for the channel improvements work, and the Santa Clara Valley Transportation Authority, Santa Clara County, and City of Milpitas for the Montague Expressway bridge replacement work.

Financial Summary ($ Thousands)
Berryessa Creek Flood Protection

Fiscal Year 2018-2019						15-year Program	
Project No. and Name	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
		Actual	Encumbrance	Total			
26174041 Design and Construction	$5,761	$714	$0	$714	12%	$17,167	90%
26174042 Real Estate Acquisitions	$1,541	$15	$0	$15	1%	$29,554	57%
Total	**$7,302**	**$729**	**$0**	**$729**	**10%**	**$46,720**	**69%**

Opportunities and Challenges

The original Clean, Safe Creeks Plan for flood protection along Berryessa Creek stretched from Lower Penitencia Creek to Old Piedmont Road, protecting 1,814 parcels. After USACE completed its benefit-to-cost assessment, it was found that the federal criterion was not met for the reach that lies upstream of Interstate 680. The portion of the project that was constructed under the Safe, Clean Water Program is the preferred project with local and federal funding (KPI #1), as depicted by the project map. The remainder of the original Clean, Safe Creeks Plan project elements are being constructed by Valley Water with local funding only through the Watershed Stream Stewardship Fund. The portion of Berryessa Creek between Lower Penitencia Creek and Calaveras Boulevard is being constructed in 2 phases. Phase 1 was completed in December 2016 which spans between Lower Penitencia Creek and just downstream of North Abel Street. Phase 2 is under construction, which spans between North Abel Street and Calaveras Boulevard, is anticipated to be complete by December 2019.

Construction of short-term improvements at the Rock Springs neighborhood.

ON TARGET

Project FY19 Highlights

- For the preferred project, obtained a consultant to revise and comment on a draft U.S. Army Corps of Engineers (USACE) Feasibility Study Project Management Plan.
- Initiated a Support Agreement with USACE for them to prepare a Project Management Plan.
- The Draft Problem Definition Report for the local project completed, and public meetings held in spring 2019 to incorporate public input and finalize the report.
- Developed Conceptual Alternatives Report for the local project.

Coyote Creek Flood Protection

Montague Expressway to Tully Road – San José

The project is located in the central portion of the Coyote Watershed and extends approximately 9 miles between Montague Expressway and Tully Road in San José.

Preferred project: A federal-state-local partnership

The primary project objective is to reduce the risk of flooding to homes, schools, businesses, and highways in the Coyote Creek floodplain for floods up to the level of flooding that occurred on February 21, 2017, approximately a 20 to 25 year flood event, and includes planning, design, and project construction. Alternative funding sources, including federal funding, state grants, and additional local funding sources, are being explored and will need to be secured for full construction of the project.

Local funding only project:

The local funding only option includes identifying short-term flood relief solutions that are permittable and do not exacerbate flooding elsewhere, with implementation to begin prior to the 2017-2018 winter season. In addition, under the local funding only option, Valley Water will complete the planning and design phases of the preferred project, and identify prioritized elements of the project for construction with the remaining local funds.

Flooding History and Project Background

Flooding has occurred many times within the Coyote Creek Watershed, including along portions of Coyote Creek in 1911, 1917, 1931, 1958, 1969, 1982, 1983, 1997, 1998, and 2017. The largest flow recorded on Coyote Creek was 25,000 cubic feet per second in 1911, prior to construction of the current 2 water-supply reservoirs in the upper watershed. The worst flooding in the project reach since Anderson Reservoir was constructed in 1950, occurred in February 2017. Coyote Creek overtopped its banks at several locations between Montague Expressway and Tully Road. Businesses and hundreds of homes were inundated by creek waters for many hours. Highway 101 near Watson Park and various local streets were closed due to flooding, and thousands of residents had to be evacuated and sheltered.

The Coyote Creek Project is located in the central portion of the Coyote Watershed on the mainstem of Coyote Creek, within the City of San José. The original project reach extended approximately 6.1 miles between Montague Expressway and Highway 280; however, the project reach was extended approximately 2.9 miles upstream to Tully Road in 2017 to include the Rock Springs neighborhood and incorporate the areas impacted by the February 21,

2017 flood event. In addition to the primary objective of reducing the risk of flooding to homes, schools, businesses, and highways from Coyote Creek flood events, the project may evaluate opportunities to improve fisheries, stream habitat values, and public access.

Benefits

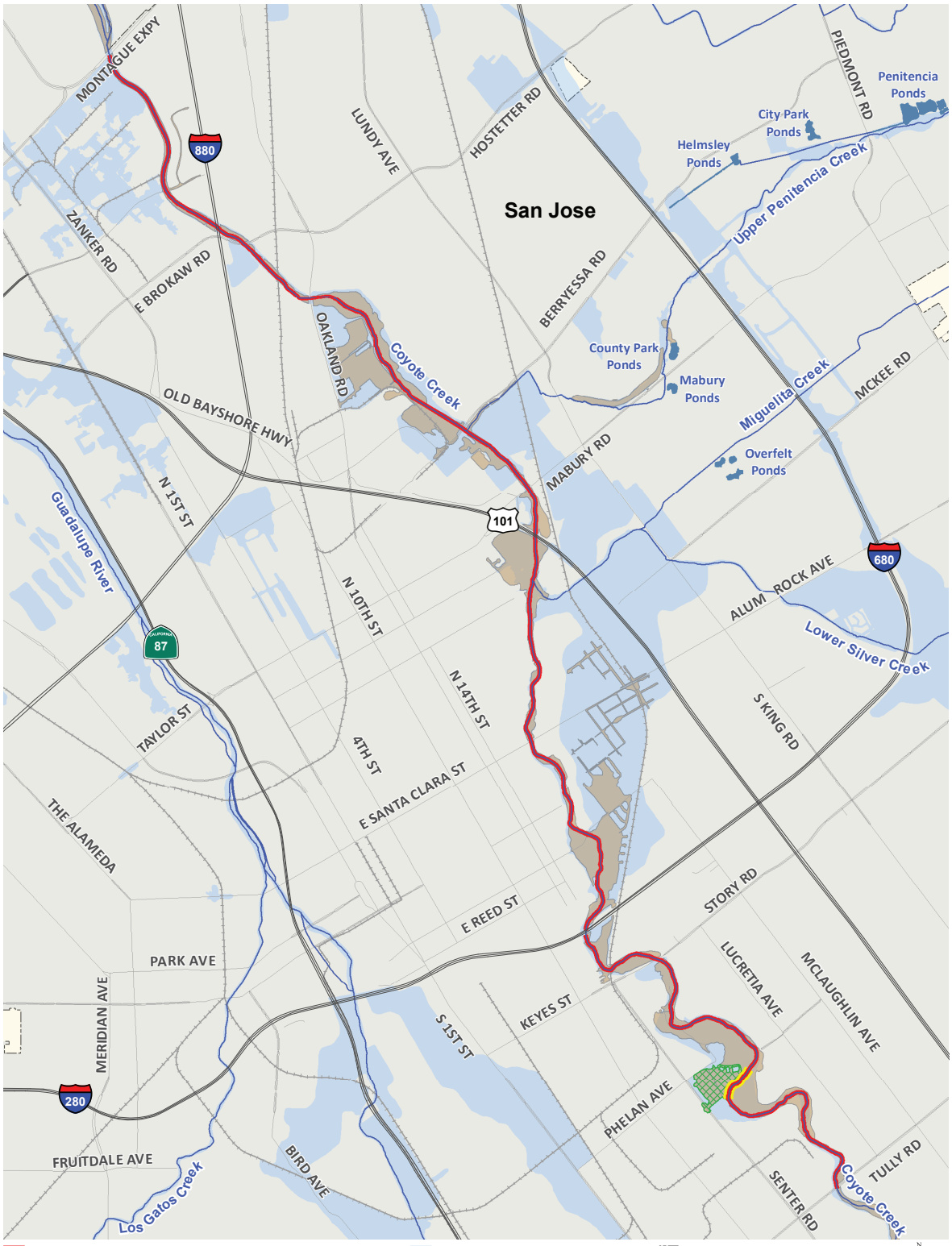
- Implements short-term flood relief solutions
- Provides flood risk reduction for approximately 1,000 parcels from the level of flooding that occurred on February 21, 2017, approximately a 20 to 25 year flood event, when the entire project from Montague Expressway to Tully Road is constructed
- Improves water quality, enhances stream habitat and provides for recreational opportunities
- Incorporates revegetation and aesthetic elements of the Coyote Creek park chain in the project

Key Performance Indicators (5-year Implementation Plan)

1. Preferred project with federal, state, and local funding: Secure alternative funding sources to construct a flood protection project that provides flood risk reduction from floods up to the level of flooding that occurred on February 21, 2017, approximately a 20 to 25 year flood event, between Montague Expressway and Tully Road.
2. With local funding only: (a) Identify short-term flood relief solutions and begin implementation prior to the 2017-2018 winter season; (b) Complete the planning and design phases of the preferred project; and (c) With any remaining funds, identify and construct prioritized elements of the preferred project.

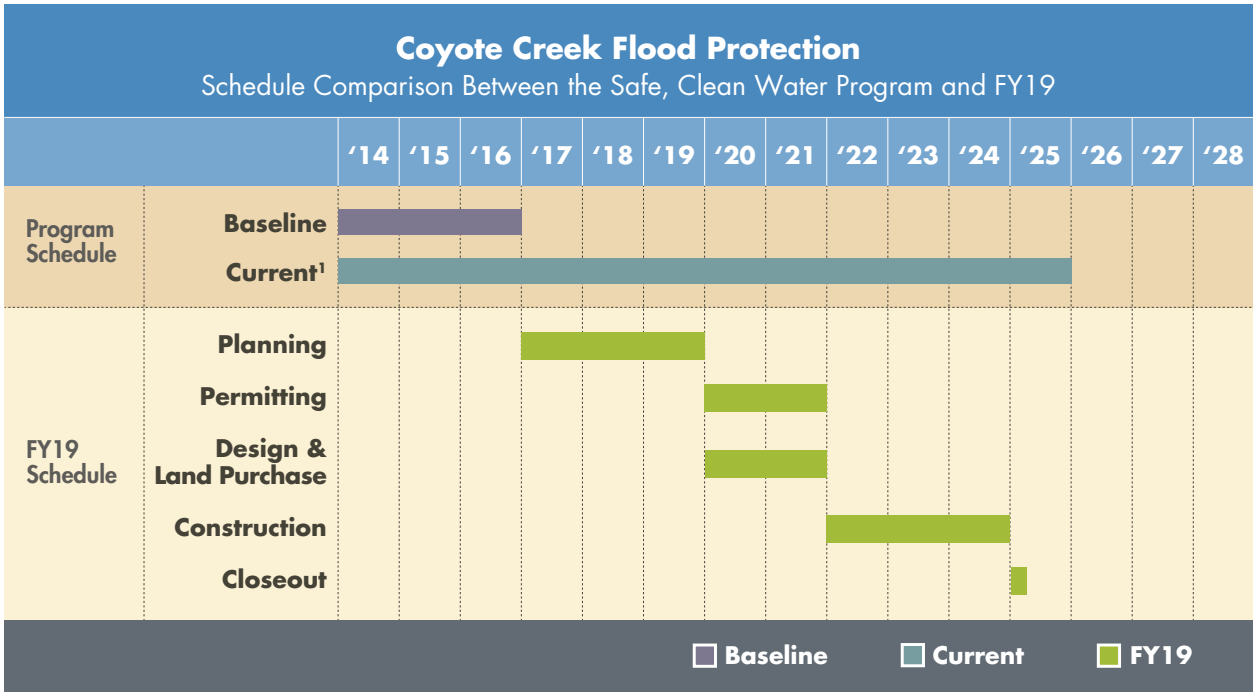
Geographic Area of Benefit: San José

Project Location



Preferred Project (KPI #1)
Locally Funded Project (KPI #2A)
Locally Funded Project Improved Area (KPI #2A)
1% FEMA Flood Risk Zone
2017 Flood Event
Santa Clara County Cities
Santa Clara County

Schedule



[1]Board approved a schedule adjustment through the change control process in FY16.

Status History

Fiscal Year	Status
FY 14	ADJUSTED
FY 15	NOT ON TARGET
FY 16	ADJUSTED
FY 17	MODIFIED
FY 18	ON TARGET

Status for FY19: ON TARGET

Progress on KPI #1:

- On May 21, 2018, Valley Water signed a Memorandum of Agreement with the U.S. Army Corps of Engineers (USACE), which allows Valley Water to conduct a Feasibility Study with as-needed technical help from the USACE, paid by Valley Water. This Feasibility Study is the first step in pursuing federal and state funding for a preferred project.
- In June 2018, Valley Water released a Request for Proposal (RFP) for a consultant to revise and comment on a USACE Feasibility Study Project Management Plan prepared by Valley Water.
- On November 19, 2018, the consultant provided Valley Water with findings and recommendations on the USACE Feasibility Study Project Management Plan prepared by Valley Water, specifically on its conformance to federal feasibility study guidelines, anticipated cost, schedule, and the appropriate entity to perform the various study elements.

Progress on KPI #2:

- The Draft Problem Definition Report for the local project has been completed, and public meetings were held in spring 2019 to incorporate public input and finalize the report.
- Development of the Conceptual Alternatives Report for the local project were completed at the end of FY19.

Financial Information

In FY19, 36% of the annual project budget was expended.

The budget was under-expended because it included consultant funding to facilitate working with USACE on feasibility study and on design phase, which didn't happen in FY19. Annual expenditure is expected to increase in FY20 with the completion of the Conceptual Alternatives Report as well as the Feasible Alternatives Reports, culminating in the completion of the Planning Study Phase during winter 2020.

Financial Summary ($ Thousands)
Coyote Creek Flood Protection Study and Partial Construction

Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$1,755	$614	$27	$641	36%	$30,868	9%

Opportunities and Challenges

Partnership opportunities

There are many opportunities that are being evaluated for the Coyote Creek project. Alternative funding sources, including federal funding, state grants, and additional local funding sources, are being explored and may need to be secured for full construction of the project. The local funding only option can be accomplished with the $28.9 million remaining for the project and includes identifying short-term flood relief solutions that are permittable and do not exacerbate flooding elsewhere. The project reach has several parks that may be useable for flood storage, as well as well-established public trails along certain parts of the creek.

Location challenges

There are several challenges that the project may experience. Empirical evidence from the 2002 to 2013 planning cycle indicates that the residential community does not want to be disturbed and is not in favor of creek widening. It also indicates that the regulatory development of the Least Environmentally Damaging Practicable Alternative (LEDPA) analysis favors integrated water resources management, as opposed to a single focus project (such as flood protection). Another challenge is that Valley Water has limited and sporadic property rights within the project limits along the creek and current maintenance obligations are relatively small. Project implementation may include

acquisition of continuous right-of-way for construction and future operations and maintenance.

Confidence Levels

Schedule: High confidence

Based on the adjusted schedule with a target completion date of FY25, Valley Water should be able to complete the local funding only option (KPI #2).

Funding: Moderate confidence

The Safe, Clean Water Program should fully fund the "local funding only" project's planning and design phases, and identification of prioritized elements of the project for construction. To complete the preferred project, Valley Water may need to secure additional funding. Alternative funding sources, including federal funding, state grants and additional local funding sources, are being explored and may be needed for full construction of the preferred project.

Permits: Moderate confidence

Permitting will depend on the alternative selected. The project need is apparent from the recent flooding and resource agencies will be consulted early in the project formulation process to expedite permitting.

Jurisdictional Complexity: High confidence

All local agencies, the City of San José and County of Santa Clara, are fully cooperating due to the significance of the need for the project.

See Appendix D: *Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Project completion celebration.

COMPLETED

Project FY14 Highlights

- Provided flood damage reduction for 2,483 parcels that included: 2,270 homes, 90 businesses, and 7 schools/institutions.

Calabazas Creek Flood Protection

Miller Avenue to Wardell Road

The project's objective was to provide 1% (or 100-year) flood protection to 2,483 parcels in the Calabazas Creek watershed between Miller Avenue and Wardell Road. A long detention basin parallel to the creek was built to capture high storm flows, preventing the creek from overtopping its banks in a 1% flood.

Valley Water repaired 14 severely eroding banks, using as little "hardscape" as possible. The project incorporated environmental stewardship principles to reduce erosion with vegetation to enhance habitat for wildlife. Valley Water reduced the cost of the project by collaborating with the City of San José, which rebuilt a bicycle motocross (BMX) park at Calabazas Park.

On November 20, 2012, Valley Water and the cities of Saratoga, San José, and Cupertino received notification from the Federal Emergency Management Agency (FEMA) that the Letter of Map Revision (LOMR) submittal for the Calabazas Creek Flood Protection Project had been approved resulting in a revision of the Flood Insurance Rate Map for the requested area upstream of Miller Avenue. The project objectives have been met.

Benefits

- Provide flood protection on Calabazas Creek from Miller Avenue to Wardell Road
- Protect 2,483 parcels from 1% flooding
- Provide erosion protection measures to improve stream quality
- Identify environmental restoration and enhancement and recreational enhancements, where opportunities exist

Key Performance Indicator (Completed)

1. Flood damage reduction for 2,483 parcels that include: 2,270 homes, 90 businesses, and 7 schools/institutions.

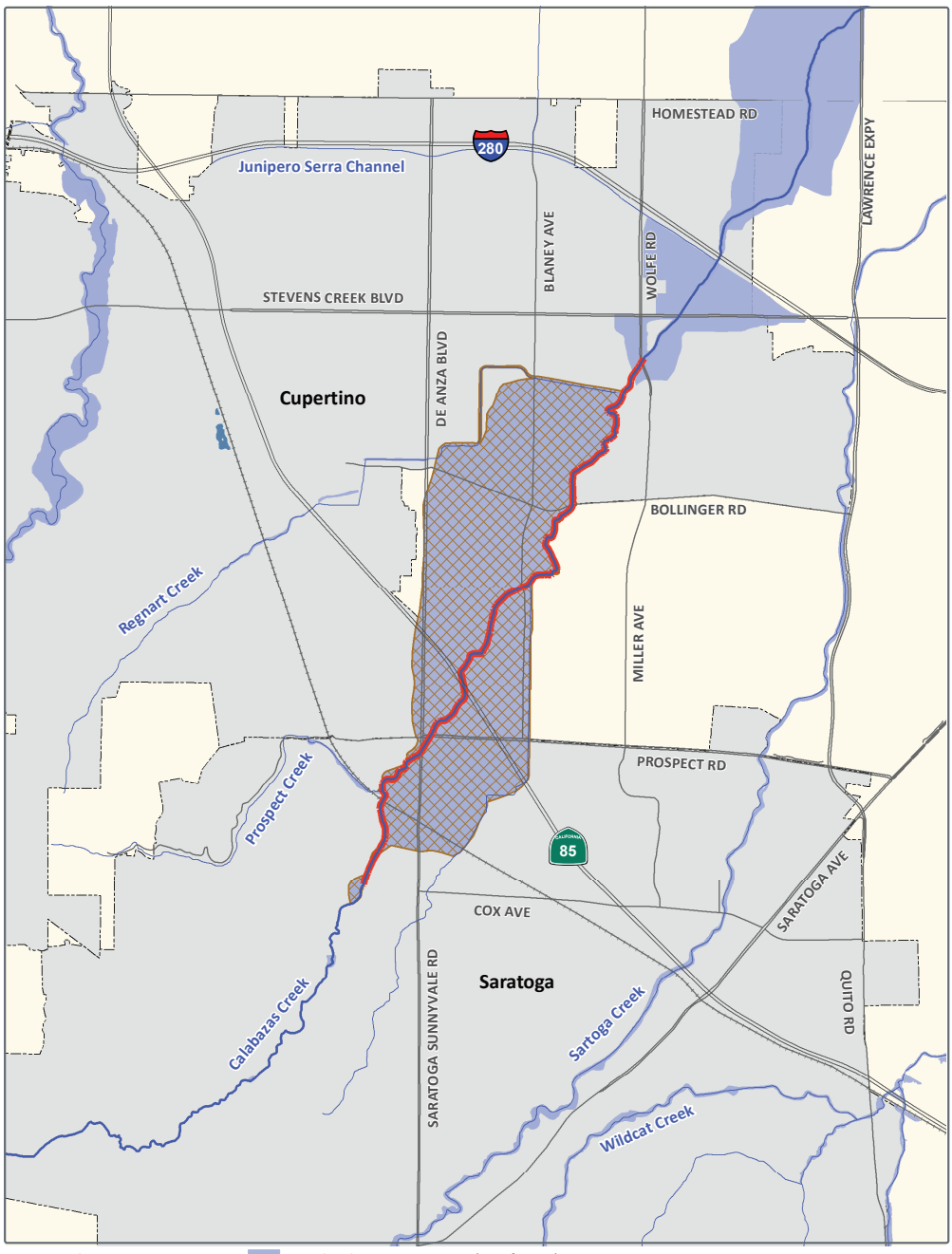
Geographic Area of Benefit: Saratoga, San José and Cupertino

Project Status: COMPLETED

Status History

Fiscal Year	Status
FY 14	COMPLETED
FY 15	COMPLETED
FY 16	COMPLETED
FY 17	COMPLETED
FY 18	COMPLETED

Project Location



CIP_line
Flood Protection Provided
1% Flood Protection Zone (As of 2014)
Santa Clara County Cities
Santa Clara County

Penitencia Creek Trail.

ADJUSTED

Project FY19 Highlights

- 43 of the 46 Clean, Safe Creeks (CSC) grant projects have been closed.
- Of the remaining three (3) open projects, one (1) project is completed and expected to close in early FY20.

Clean, Safe Creeks Grants Projects

The Clean, Safe Creeks (CSC) Program awarded grants in 3 categories to encourage community involvement in protecting and enhancing the environment. Valley Water awarded grants for 45 projects under the Clean, Safe Creeks Program between FY10 and FY13. As reported in the FY13 Clean, Safe Creeks report, all KPIs have been met as per the executed agreements. However, some grant projects have yet to be completed.

Benefits

These grant agreements address:

- CSC Outcome 2.1: Pollution prevention
- CSC Outcome 3.2: Healthy creek and bay ecosystems are protected, enhanced or restored as determined appropriate by the Board
- CSC Outcome 4.1: There are additional open spaces, trails and parks along creeks and in the watersheds when reasonable and appropriate

Key Performance Indicators (5-year Implementation Plan)

1. CSC 2.1: Reduce urban runoff pollutants in south county cities.
2. CSC 3.2: Creation of additional wetlands, riparian habitat and favorable stream conditions for fisheries and wildlife. (Equivalent of 100 acres of tidal or riparian habitat created or restored).
3. CSC 4.1: Community partnership to identify and provide public access to 70 miles of open space or trails along creeks.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ADJUSTED

Status for FY19: ADJUSTED (Schedule Adjustment)

Progress on KPI #1 - #3 (combined):

As of the end of FY19, 43 of the 46 Clean, Safe Creeks (CSC) grant projects have been closed. Of the remaining three (3) open projects, one (1) project was completed and is expected to close in early FY20. The other two (2) are

in progress and received extensions to be completed in FY20. The list of projects and their current status is included in the Clean, Safe Creeks (CSC) Grant Table below.

CSC Grant Table

No.	Grantee Organization	Project Name	Grant Amount Total	Project Start Date	Project End Date	Status
1	City of Saratoga	Village Creek Trail Planning	$39,000	7/1/2011	7/25/2015	Closed
2	Acterra	Adobe Creek Restoration: Redwood Grove to Shoup Park	$46,365	6/28/2011	12/30/2015	Closed
3	City of Cupertino	Stevens Creek Corridor Park and Restoration Project, Phase 2	$285,000	6/28/2011	12/30/2015	Closed
4	City of Cupertino	Stevens Creek Corridor Park and Restoration, Phase 2	$565,000	6/28/2011	12/30/2015	Closed
5	City of San José	Penitencia Creek Trail, Reach 1	$300,000	6/15/2010	12/30/2017	Closed
6	City of San José	Three Creeks Trail – Trestle and Interim Improvements	$450,000	6/28/2011	03/20/2020	In Progress
7	City of Santa Clara-Parks & Recreation Department	City of Santa Clara – Ulistac Natural Area Environmental Enhancement	$106,976	6/28/2011	12/30/2015	Closed
8	City of Saratoga	Village Creek Trail, Phase 1	$27,000	6/28/2011	12/30/2015	Cancelled
9	SCVWD with: CA Wildlife Fndn, S.F. Estuary Invasive Spartina Project and the USFWS Don Edwards S.F. Bay National Wildlife Refuge	Invasive Spartina Monitoring & Control in South Bay Marshes & Creeks	$75,000	6/28/2011	12/30/2015	Closed
10	Town of Los Altos Hills	Adobe Creek Restoration Project at Edith Park	$83,960	9/27/2011	12/30/2015	Closed
11	Town of Los Gatos	Creekside Sports Park Pedestrian Bridge	$300,000	6/28/2011	12/30/2015	Cancelled
12	Trout Unlimited	Little Arthur Creek Streamflow Stewardship Implementation Project	$220,500	6/28/2011	12/30/2017	Completed

CSC Grant Table

No.	Grantee Organization	Project Name	Grant Amount Total	Project Start Date	Project End Date	Status
13	West Valley College	Tennis Court Wetland Enhancement Project	$109,000	6/28/2011	12/30/2015	Closed
14	West Valley College	Vasona Creek Enhancement Project: Bridge #3 Replacement and Channel Stabilization	$200,000	6/28/2011	12/30/2015	Closed
15	West Valley College	Vasona Creek Native Vegetation Enhancement Project	$180,000	6/28/2011	12/30/2015	Closed
16	Acterra	San Francisquito Creek	$80,000	10/19/2013	6/30/2016	Closed
17	City of Gilroy	Ronan Channel Trail – Interim Project, Phase 1	$190,000	1/29/2014	12/31/2019	In Progress
18	City of Los Altos	Adobe Creek Restoration at Redwood Grove – Phase 2	$90,000	12/27/2013	6/30/2016	Closed
19	City of San José	Los Alamitos Creek – Coleman Road Under-Crossing	$62,727	1/8/2014	12/31/2017	Closed
20	Downtown Streets Team	Coyote Creek Encampment Cleanup	$197,848	1/8/2014	6/30/2016	Closed
21	Save the Bay	Palo Alto Baylands Tidal Marsh Transition Zone Restoration	$75,000	12/27/2013	6/30/2016	Closed
22	Town of Los Altos Hills	O'Keefe Preserve Purissima Creek Habitat Restoration Project	$98,425	10/19/2013	6/30/2016	Closed

Closed: Project completed – Final project report provided and invoice paid.

Completed: Project completed – Final project report and invoice pending.

In-Progress: Project on schedule for completion by end date.

Cancelled: Project cancelled by grantee.

Extended: Project schedule or scope is being amended.

Financial Information

In FY19, there was no budget.

Financial Summary ($ Thousands) CSC Environmental Enhancement and Open Space Grant						
Fiscal Year 2018-2019					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
$0	$0	$0	$0	0%	$2,864	124%

Opportunities and Challenges

Grant extensions

The City of San José received an extension for the Three Creeks Trail – Trestle and Interim Improvements project due to delays regarding the suitability of the Environmental Impact Report (EIR). The $450,000 grant is for construction of a clear-span bridge trestle and an interim trail near Los Gatos Creek. The initial agreement, which was scheduled to expire on December 31, 2017, had earlier been extended to expire on December 31, 2018, but was amended again to expire on March 20, 2020. The city has secured their permits from the U.S. Army Corps of Engineers and the San Francisco Bay Regional Water Quality Control Board. However, they are awaiting other permits to begin construction.

The City of Gilroy received a $190,000 grant for the Ronan Channel Trail – Interim Project, Phase 1. The project was set to expire on June 30, 2016; however, due to staff turnover and subsequent understaffing slowing down the project, the project received an extension to December 31, 2017. In FY18, the city reported ongoing staff turnover and challenges in securing permit, and was, therefore, awarded another extension. The agreement is now set to expire in FY20 on December 31, 2019.

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Appendices

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Financial Information **A-1**

Appendix B
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Appendix C
Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 **C-1**

Appendix D
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Countywide Map of Projects **I-1**

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Glossary **J-1**

Appendix A: Annual Financial Summary Fiscal Year 2018-2019 ($ Thousands)

	Adopted Budget	Budget Adjustment	Adjusted Budget	Budgetary Actual Total			% Received
Revenue							
Special Tax	43,998		43,998			44,127	100%
Interest	1,670		1,670			6,679	400%
Other	9,126		9,126			24,499	268%
Subtotal	**54,794**		**54,794**			**75,305**	**137%**
Transfers and Refunding Proceeds	2,029		2,029			1,944	96%
Total Funding Sources	**56,823**		**56,823**			**77,249**	**136%**

Costs	Adopted Budget	Budget Adjustment[1]	Adjusted Budget	Budgetary Actual			% of Budget Spent
				Actual	Encumbrance	Total	
Priority A: Ensure a safe, reliable water supply							
A1 Main Avenue and Madrone Pipelines Restoration	292	642	934	1,010	–	1,010	108%
A2 Safe, Clean Water Partnerships and Grants	183	(49)	134	16	–	16	12%
A3 Pipeline Reliability Project	1,090	–	1,090	279	–	279	26%
Subtotal	**1,565**	**593**	**2,158**	**1,305**	–	**1,305**	**60%**
Priority B: Reduce toxins, hazards and contaminants in our waterways							
B1 Impaired Water Bodies improvements	1,714	–	1,714	1,000	296	1,297	76%
B2 Interagency Urban Runoff Program	721	–	721	762	–	762	106%
B3[1] Pollution Prevention Partnerships and Grants	450	697	1,147	321	681	1,002	87%
B4 Good Neighbor Program: Encampment Cleanup	927	–	927	969	–	969	104%
B5 Hazardous Materials Management and Response	31	–	31	26	–	26	85%
B6 Good Neighbor Program: Remove Graffiti and Litter	540	–	540	519	151	669	124%
B7[3] Support Volunteer Cleanup Efforts and Education	219	236	455	128	282	410	90%
Subtotal	**4,602**	**933**	**5,535**	**3,725**	**1,410**	**5,134**	**93%**
Priority C: Protect our water supply from earthquakes and natural disasters							
C1 Anderson Dam Seismic Retrofit	–	–	–	–	–	–	–
C2 Emergency Response Upgrades	344	–	344	353	–	353	103%
Subtotal	**344**	–	**344**	**353**	–	**353**	**103%**
Priority D: Restore wildlife habitat and provide open space							
D1 Management of Revegetation Projects	1,145	–	1,145	928	4	932	81%
D2 Revitalize Riparian, Upland and Wetland Habitat	1,558	–	1,558	571	894	1,465	94%
D3[1] Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails	3,148	571	3,719	484	1,588	2,071	56%
D4 Fish Habitat and Passage Improvements	1,186	3,285	4,470	2,289	358	2,647	59%
D5 Ecological Data Collection and Analysis	890	–	890	282	–	282	32%
D6 Creek Restoration and Stabilization	2,581	22	2,604	273	–	273	10%
D7 Partnerships for the Conservation of Habitat Lands	1,000	–	1,000	10	1,000	1,010	101%
D8 South Bay Salt Ponds Restoration Partnership	–	12	12	11	–	11	93%
Subtotal	**11,507**	**3,890**	**15,397**	**4,849**	**3,844**	**8,692**	**56%**
Priority E: Provide flood protection to homes, business, schools, and highways							
E1.1 Vegetation Control for Capacity	1,567	–	1,567	1,790	25	1,815	116%
E1.2 Sediment Removal	990	–	990	428	42	470	47%
E1.3 Maintenance of Newly Improved Creeks	–	–	–	–	–	–	–
E1.4 Vegetation Management for Access	476	–	476	549	5	555	116%
E2.1 Coordination with Local Municipalities on Flood Communication	217	–	217	101	–	101	47%
E2.2 Flood–Fighting Action Plans	–	–	–	–	–	–	–
E3 Flood Risk Reduction Studies	819	–	819	757	176	933	114%
E4 Upper Penitencia Creek	1,525	385	1,909	649	–	649	34%
E5 San Francisquito Creek	3,110	2,564	5,674	5,026	540	5,556	98%
E6 Upper Llagas Creek	5,240	25,101	30,341	6,986	661	7,646	25%
E7 San Francisco Bay Shoreline Protection	6,722	5,533	12,255	3,437	4,162	7,599	62%
E8 Upper Guadalupe River	6,516	20,023	26,540	2,369	(6)	2,363	9%
Subtotal	**27,182**	**53,606**	**80,788**	**22,092**	**5,604**	**27,697**	**34%**
Permanente Creek Flood Protection	5,281	2,408	7,690	5,695	2,788	8,483	110%
Sunnyvale East and West Channels Flood Protection	–	9,743	9,743	1,236	–	1,236	13%
Berryessa Creek Flood Protection	209	7,093	7,302	729	–	729	10%
Coyote Creek Flood Protection	1,752	3	1,755	614	27	641	36%
CSC Environmental Enhancement and Open Space Grant	–	–	–	–	–	–	–
Calabazas Creek Miller to Wardell	–	–	–	–	–	–	–
Subtotal	**7,243**	**19,248**	**26,490**	**8,274**	**2,815**	**11,089**	**42%**
Subtotal of All Outcome Costs	**52,443**	**78,270**	**130,712**	**40,598**	**13,672**	**54,270**	**42%**
SCW Planning and Development	3,143	–	3,143	3,553	8	3,561	113%
Debt Proceeds	(110,000)	–	(110,000)	(2,030)	–	(2,030)	–
Debt Service	4,616	–	4,616	782	–	782	17%
Management and Maintenance of Acquired Properties	158	–	158	93	–	93	59%
Total Program Cost	**$60,361**	**$78,270**	**$138,630**	**$45,027**	**$13,680**	**$58,707**	**42%**
Net Increase/(Decrease) to Reserves	(160,462)		28,193			20,572	

[1] Includes carryforward of unspent prior year capital budget.

Appendix A: Cumulative Financial Summary Fiscal Year 2013-2019 ($ Thousands)

	15-year Plan	FY13 Enc Bal & Cap Project Reserve	Board [1] Approved Adjusted	Adjusted 15-year Plan	Program-To-Date Actual Total	% Received	Current 15-year Forecast
Revenue							
Special Tax	722,740			722,740	243,202	34%	716,751
Interest	11,676			11,676	13,626	45%	30,324
Other [6]	79,714		58,018	137,732	48,597	35%	137,732
Total	**814,130**		**58,018**	**872,148**	**305,424**	**35%**	**884,807**
Beginning CSC Reserves	115,623	80,474		196,097	178,074		178,074
Transfers and Refunding Proceeds	–	–	72,452	72,452	25,019		72,452
Total Funding Sources	**929,753**	**80,474**	**130,470**	**1,140,698**	**508,517**		**1,135,334**

	15-year Plan	FY13 Enc Bal & Cap Project Reserve	Board [1] Approved Adjusted	Adjusted 15-year Plan	Program-To-Date Actual: Actual	Program-To-Date Actual: Encumbrance	Program-To-Date Actual: Total	% of Adj. Plan Spent	Current 15-year Forecast[3]	15-year Forecast/ above (below) 15-year Plan
Priority A: Ensure a safe, reliable water supply										
A1 Main Avenue and Madrone Pipelines Restoration [2]	8,303	–	9,270	17,573	16,195	1,112	17,307	98%	17,573	–
A2 Safe, Clean Water Partnerships and Grants	2,360	–	(557)	1,803	838	241	1,079	60%	2,020	217
A3 Pipeline Reliability Project	12,923	–	(1,408)	11,515	279	–	279	2%	11,515	–
Subtotal	**23,586**	**–**	**7,305**	**30,891**	**17,312**	**1,354**	**18,665**	**60%**	**31,108**	**217**
Priority B: Reduce toxins, hazards and contaminants in our waterways										
B1 Impaired Water Bodies improvements	26,982	445	–	27,427	7,010	665	7,674	28%	23,157	(4,271)
B2 Interagency Urban Runoff Program	12,641	–	–	12,641	4,019	–	4,019	32%	11,649	(992)
B3 Pollution Prevention Partnerships and Grants	7,595	–	–	7,595	2,102	1,072	3,174	42%	8,193	599
B4 Good Neighbor Program: Encampment Cleanup	5,209	105	9,790	15,104	6,577	–	6,577	44%	15,559	455
B5 Hazardous Materials Management and Response	618	–	–	618	156	1	157	25%	535	(84)
B6 Good Neighbor Program: Remove Graffiti and Litter	10,036	2	–	10,038	2,916	151	3,067	31%	8,156	(1,882)
B7 Support Volunteer Cleanup Efforts and Education	2,430	–	–	2,430	1,056	282	1,338	55%	2,566	137
Subtotal	**65,511**	**552**	**9,790**	**75,853**	**23,836**	**2,170**	**26,006**	**34%**	**69,815**	**(6,039)**
Priority C: Protect our water supply from earthquakes and natural disasters										
C1 Anderson Dam Seismic Retrofit	67,053	–	–	67,053	14,000	–	14,000	21%	66,053	(1,000)
C2 Emergency Response Upgrades	3,357	–	–	3,357	1,869	10	1,880	56%	4,613	1,256
Subtotal	**70,410**	**–**	**–**	**70,410**	**15,869**	**10**	**15,880**	**23%**	**70,666**	**256**
Priority D: Restore wildlife habitat and provide open space										
D1 Management of Revegetation Projects	22,259	–	–	22,259	4,430	25	4,455	20%	19,789	(2,470)
D2 Revitalize Stream, Upland and Wetland Habitat	18,190	–	–	18,190	2,186	1,072	3,258	18%	8,138	(10,052)
D3 Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails	24,092	–	–	24,092	3,859	3,384	7,244	30%	25,174	1,081
D4 Fish Habitat and Passage Improvements	29,176	358	16,097	45,631	8,188	581	8,769	19%	45,084	(547)
D5 Ecological Data Collection and Analysis	9,020	–	–	9,020	2,088	271	2,358	26%	7,938	(1,082)
D6 Creek Restoration and Stabilization	16,719	–	1,756	18,475	1,289	–	1,289	7%	18,478	4
D7 Partnerships for the Conservation of Habitat Lands	10,524	–	–	10,524	10	1,000	1,010	10%	8,000	(2,524)
D8 South Bay Salt Ponds Restoration Partnership	4,694	–	(181)	4,513	281	–	281	6%	4,512	–
Subtotal	**134,673**	**358**	**17,672**	**154,703**	**22,331**	**6,332**	**28,663**	**19%**	**137,113**	**(15,590)**
Priority E: Provide flood protection to homes, business, schools, and highways										
E1.1 Vegetation Control for Capacity	24,560	11	–	24,571	6,942	25	6,967	28%	19,448	(5,122)
E1.2 Sediment Removal	9,832	16	–	9,848	2,990	44	3,033	31%	12,562	2,714
E1.3 Maintenance of Newly Improved Creeks	19,051	–	–	19,051	–	–	–	–	19,051	–
E1.4 Vegetation Management for Access	6,156	–	–	6,156	2,583	10	2,593	42%	7,974	1,817
E2.1 Coordination with Local Municipalities on Flood Communication	2,530	–	–	2,530	859	14	873	35%	4,310	1,780
E2.2 Flood–Fighting Action Plans	1,361	–	–	1,361	–	-	–	–	–	(1,361)
E3 Flood Risk Reduction Studies	9,374	–	–	9,374	4,058	206	4,264	45%	9,202	(172)
E4 Upper Penitencia Creek	59,413	–	(15,398)	44,015	649	–	629	1%	44,014	(1)
E5 San Francisquito Creek	47,740	2,907	29,446	80,093	48,419	1,560	49,980	62%	80,204	111
E6 Upper Llagas Creek	84,098	6,784	108,960	199,842	47,121	4,943	52,063	26%	201,986	2,144
E7 San Francisco Bay Shoreline Protection	22,288	–	1,467	23,755	7,927	4,162	12,088	51%	23,774	19
E8 Upper Guadalupe River	69,112	39,382	(14,168)	94,326	32,531	3,788	36,319	39%	95,420	1,094
Subtotal	**355,515**	**49,100**	**110,307**	**514,922**	**154,078**	**14,751**	**168,829**	**33%**	**517,946**	**3,024**
Clean, Safe Creeks Capital Flood Protection Projects										
Permanente Creek Flood Protection	22,111	9,398	45,063	76,572	63,485	10,350	73,836	96%	76,918	346
Sunnyvale East and West Channels Flood Protection	82,249	4,463	(27,776)	58,936	8,485	50	8,535	14%	59,077	141
Berryessa Creek Flood Protection	25,288	6,757	14,675	46,720	28,196	3,872	32,068	69%	52,716	5,995
Coyote Creek Flood Protection	18,663	5,757	6,448	30,868	2,718	27	2,745	9%	30,968	100
CSC Environmental Enhancement and Open Space Grant [3]	–	2,864	–	2,864	2,802	752	3,554	124%	4,123	1,260
Calabazas Creek Miller to Wardell	–	1,223	–	1,223	66	–	66	5%	159	(1,064)
Subtotal	**148,311**	**30,462**	**38,410**	**217,183**	**105,752**	**15,052**	**120,804**	**56%**	**223,960**	**6,777**
Subtotal of All Outcome Costs	**798,007**	**80,472**	**183,484**	**1,061,963**	**339,178**	**39,669**	**378,847**	**36%**	**1,050,608**	**(11,355)**
SCW Planning and Development	31,999	2	–	32,002	14,293	10	14,303	45%	32,779	778
Cost of Financing	43,119	–	–	43,119	–	–	–	0%	30,986	(12,133)
Debt Proceeds [4]	–	–	–	–	(45,649)	_	(45,649)	0%	–	–
Debt Service	–	–	–	–	1,253	–	1,253	0%	–	–
Management and Maintenance of Acquired Properties	–	–	–	–	625	–	625	0%	1,127	1,127
Overhead Adjustment	–	–	–	–	283	–	283	0%	–	–
Market Valuation Reserve	–	–	–	–	–	–	1,209	0%	–	–
Currently Authorized Projects [5]	–	–	–	–	–	–	109,088	0%	–	–
Operating and Capital Reserve	56,627	–	(53,013)	3,614	–	–	48,559	1344%	28,828	25,214
Total Program Cost	**$929,753**	**$80,474**	**$130,470**	**$1,140,698**	**$309,983**	**$39,679**	**$508,517**	**45%**	**$1,144,329**	**$3,631**

[1] Board approved adjustments include changes to Safe Clean Water capital projects based on the Board approved FY20 CIP.

[2] Cost of the project is $17.6M. The Water Utility fund will pay $11.4M via transfer; net cost to Safe Clean Water is $6.2M.

[3] The $4.1M Current 15-yr Forecast includes CSC encumbrance carry forward, plus additional cost to administer remaining CSC grants.

[4] The $45.6M are proceeds from the 2012 and 2017 debt refundings ($12.2M) and Commercial Paper issuance in 2018 ($33.4M).

[5] The $109M currently authorized projects reserve represents previously budgeted capital dollars that were unspent due to project delays and will be carried forward and spent in a future year.

[6] The $137.7M projected Other Revenue includes $47M unsecured funding from NRCS Grant for Upper Llagas Creek.

Appendix A-2.1 FY19 Currently Authorized Project Reserves ($ Thousands)

		Currently Authorized Project Reserves		
		Balance	Project Reserves	Total
Priority A: Ensure a safe, reliable water supply				
A1	Main Avenue and Madrone Pipelines Restoration	(72)	–	(72)
A3	Pipeline Reliability Project	811	–	811
Priority D: Restore wildlife habitat and provide open space				
D4	Fish Habitat and Passage Improvements			
	Almaden Lake Creek/Lake Separation (KPI 1)	640	–	640
	Ogier Ponds Creek/Lake Separation (KPI 1)	653	–	653
	Fish Passage Improvements (KPI 3)	532	933	1,465
D6	Creek Restoration and Stabilization			
	Hale Creek Enhancement	2,330	1,213	3,543
D8	South Bay Salt Ponds Restoration Partnership	884	266	266
Priority E: Provide flood protection to homes, business, schools, and highways				
E4	Upper Penitencia Creek	1,260	–	1,260
E5	San Francisquito Creek	378	683	1,061
E6	Upper Llagas Creek	22,707	16,594	39,301
E7	San Francisco Bay Shoreline Protection			
	Economic Impact Areas 1-10 (KPI 1)	94	1,528	1,622
	Economic Impact Area 11 (KPI 2)	4,561	–	4,561
E8	Upper Guadalupe River	24,180	1,246	25,426
Clean, Safe Creeks Capital Flood Protection Projects				
	Permanente Creek Flood Protection	311	–	311
	Sunnyvale East and West Channels Flood Protection	8,507	3,964	12,471
	Berryessa Creek Flood Protection	6,580	8,072	14,652
	Coyote Creek Flood Protection	1,115	–	1,115
	Total Currently Authorized Project Reserves	**$74,590**	**$34,498**	**$109,088**

Appendix A: Other Revenue ($ Thousands)

Table A-3.1 Other Revenue — Original Forecast

Other Revenue Sources	Project Numbers	Original Forecast
Capital Reimbursements		
State Subventions		
E6 — Upper Llagas Creek (Buena Vista Rd. to Wright Ave.)	26174051s	$30,000
E8 — Upper Guadalupe River (I-280 to Blossom Hill Rd.)	26154001s	$33,044
CSC — Berryessa Creek (Calaveras Blvd. to I-680)	26174041s	$12,841
City of Morgan Hill		
E6 — Upper Llagas Creek (Buena Vista Rd. to Wright Ave.)	26174051s	$780
	Sub-Total	**$76,665**
Rental Income		
Fund 26	-	$3,049
	Sub-Total	**$3,049**
	Combined Total	**$79,714**

Appendix A: Other Revenue ($ Thousands)

Table A-3.2 Other Revenue Comparison — Actuals Program to Date (FY14-19) vs. Forecast (FY20-28)

Other Revenue Sources	Project Numbers	Actuals Program to Date (FY14-19)	Forecast (FY20-28)
Capital Reimbursements			
State Subventions			
E6 - Upper Llagas Creek (Buena Vista Rd. to Wright Ave.)	26174051s	$13,058	$19,092
E8 - Upper Guadalupe River (I-280 to Blossom Hill Rd.)	26154001s	$16,401	$1,419
CSC - Berryessa Creek (Calaveras Blvd. to I-680)	26174041s	-	$4,384
Grants			
Natural Resources Conservation Service (NRCS) Grant E6 - Upper Llagas Creek (Buena Vista Rd. to Wright Ave.)	26174051s	-	$40,000[1]
Department of Water Resources Prop. 84 Grant E7 - San Francisco Bay Shoreline	26444001s	$178	$4,439
Department of Water Resources Prop. 1E Grant CSC - Berryessa Creek (Calaveras Blvd. to I-680)	26174041s	$7,304	$2,696
Other			
City of Morgan Hill E6 - Upper Llagas Creek (Buena Vista Rd. to Wright Ave.)	26174051s	$1,141	-
City of Mountain View Permanente Creek	26244001s	$652	**$372**
Cost Share Agreements			
Guadalupe River Coordinated Mercury Monitoring Plan B1 - Impaired Water Bodies Improvement	26752043s	$59	-
San Francisquito Creek Joint Powers Authority E5 - San Francisquito Creek	26284002s	$4,639	$19,780[2]
Rental Income			
Fund 26		$1,813	-
Other			
Fund 26		$305	-
	Sub-Totals	**$45,550**	**$92,182**
	Combined Grand Total	**$137,732**	

[1] NRCS Grant Unsecured.

[2] Cost Share Agreement Unsecured.

Appendix B: Inflation Assumptions

	Actual FY14	Actual FY15	Actual FY16	Actual FY17	Actual FY18	Actual FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
COLA Increase %	1.5%	2.0%	3.0%	3.0%	3.0%	4.0%	4.0%	4.0%	4.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Step Increase %	0.2%	0.3%	0.3%	0.5%	0.5%	0.7%	1.5%	1.5%	1.5%	1.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Benefits Rate	52.7%	50.5%	49.6%	53.3%	53.1%	51.6%	52.8%	55.1%	56.6%	58.1%	59.5%	61.0%	62.5%	64.2%	66.0%
Supplies & Svcs Inflation*	3.0%	2.3%	2.7%	3.5%	3.9%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Construction Cost Inflation**	4.9%	2.3%	3.5%	1.5%	2.5%	2.8%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%

*Actual supplies and services inflation based on the San Francisco-Oakland-San José Consumer Price Index for all urban consumers as of June 2018.
** Actual construction cost inflation based on Engineering News Record results for the San Francisco Bay Area as of June 2019.

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Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3

SCW Project Number	Grant Cycle FY	Grantee/ Community Partner	Project Name	Description of Project	Amount Awarded	Total Project Cost	Status	Measurable Outcomes
A2	2014	City of Palo Alto	Business Water Use Reports	Research water use among small to medium businesses in the hospitality and food service industries in the Palo Alto service area, how best to communicate with these businesses about their water use, and what benchmarking information is available. Develop and pilot Business Water Reports that use behavioral science, data analytics and targeting, and informative graphics to communicate water use and spur conservation among businesses receiving Water Use Reports.	$45,000	$0	Cancelled	
A2	2014	City of Palo Alto	Real-Time Water Use Monitoring - Optimal Utility Management Through Visibility to Water Consumption	Provide customers with the information and tools to monitor their own water use in real-time, thereby empowering them to actively manage water use at their facilities and address leaks or other anomalies in water use before encountering potential financial, mechanical, structural problems or liability risks. Selected Vendor will provide setup, configuration, analytics, real-time data service, weekly and monthly reports, real-time alerts, ongoing software support, updates and maintenance. Vendor will work with CPAU staff to calibrate the sensing devices for each meter whenever necessary, including when and if meters are evaluated for testing, repair and replacement through the CPAU meter auditing program. Vendor will facilitate training for the customer and CPAU staff, as needed, on use of the software monitoring platform. Vendor will assist CPAU staff with the final data evaluation to document program results.	$30,000	$0	Cancelled	
A2	2014	Our City Forest	Innovative Nursery Irrigation	Design and install a prototype of an innovative water-conserving irrigation system in an educational garden.	$30,000	$0	Cancelled	
A2	2014	First 5 Santa Clara County	Water Hydration Stations	Install 50 hydration stations in local schools to help the schools be in compliance with SB1413 and the Healthy Hunger-Free Kids Act.	$250,000	$250,000	Completed June 30, 2018	• Valley Water conducted a survey to assess the impact of the Water to Go stations at the schools. Of the 37 schools that have already installed their stations, 16 completed the survey. • Participants were asked about the overall success of the program and 75% said the Water to Go stations have been very successful at their schools and 25% believe it has been somewhat successful.
A2	2015	Bevilacqua-Knight, Inc.	Employee Rewards for Water and Energy Savings Program	Partnering with large corporate employers in Santa Clara County for outreach to educate employees on water efficiency and conservation in their homes through an employee rewards program.	$50,000	$64,324	Closed June 2017	• Ran a 3-month campaign which engaged 431 employees from eBay, VMware and BKi (4% of eligible employees at eBay, 8% at VMware, and 76% at BKi). • Participants logged 59 projects and 3,590 actions that cumulatively were estimated to save more than 1.3 million gallons of water a year. • 97% of VMware participants and 95% of eBay participants thought the challenge was a helpful way to learn about ways to save water. • Almost 90% of participants from VMware and eBay believed it was very important that their company provided opportunities to live a sustainable lifestyle at home and work.
A2	2015	San José Water Company	Advanced Metering Infrastructure (AMI) Residential Pilot Program	Evaluate advance metering infrastructure (AMI) system for single family residential customers - Willow Glen area. Evaluate conservation benefits of AMI cellular network technical system. Transmit data via existing cell network. Provide real time data and leak detection to customers and utility staff.	$50,000	$120,015	Closed June 30, 2018	Grantee will submit closeout material in FY20.
A2	2015	San José Water Company	Advanced Metering Residential Pilot Program	Research to evaluate water saving potential from using new class - advanced water meters (ultrasonic E-Series from Badger Meter Inc.) for single family residential customers in the San José Water Company service area - Willow Glen.	$50,000	$107,844	Closed June 30, 2018	Grantee will submit closeout material in FY20.

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

A2	**2015**	**City of Morgan Hill**	**Experimental Turf Irrigation Technology Evaluation at Morgan Hill Aquatics Center**	Test KISSS, a new lawn irrigation technology system, on two lawn areas near swimming pool on Morgan Hill facility. This pilot project will be designed specifically to test the technology with experimental and control areas of turf.	**$48,500**	**$64,900**	**Closed December 2017**	• City of Morgan Hill did not experience water savings with the KISSS system. Using a different species of grass in a different soil type or climate may conclude with a more positive result. • Conclusion is that the system is appropriate only at sites that are very closely managed by a small number of people and in a low traffic area.
A2	**2015**	**Deal Closet LLC DBA Bay Area Fresh**	**Low Cost Hydroponics for Cost Effective Growth of Leafy Vegetables**	Study efficiency of using farm wastewater for commercial growth of leafy vegetable crops through a hydroponic system in Santa Clara County. Using a method that captures wastewater from commercial Nutrient Film Technique (NFT) hydroponic system and recycles it into another hydroponic method, a method that requires no pumps or additional nutrients beyond those initially applied (Kratky's method).	**$25,000**	**$42,144**	**Closed June 2017**	• Conducted four (4) experiments to find out if recycling hydroponic wastewater statistically impacts the growth of food crops. • Results showed that there was really no effect at all between using recycled wastewater and using fresh water, and it's unlikely additional experiments would produce a result as extreme or more extreme than the one from this sample. • Plant sizes were in favor of using the Kratky system over the NFT system. The NFT plants were smaller and slower growing, but had tighter clustering of sizes. • This project demonstrated that the Kratky method outdoors outperforms NFT in all cases tested except in the case of heavily reused wastewater.
A2	**2016**	**City of Mountain View**	**Advanced Metering Infrastructure Feasibility Study and Pilot**	Evaluate available Advanced Metering Infrastructure (AMI) systems and their ability to optimize meter reading efficiency, increase customer service, and promote water-use efficiency within Mountain View.	**$50,000**	**$175,000**	**Closed March 2019**	Grantee will submit closeout material in FY20.
A2	**2016**	**Purissima Hills Water District**	**Residential Advanced Metering Program**	Test the efficacy of advanced metering infrastructure (AMI) in reducing water use amongst Purissima Hills Water District Customers.	**$50,000**	**$99,200**	**Closed June 2018**	• Purissima Hills Water District installed 400 Beacon endpoints and registers and compared water usage by Beacon to the Orion AMR. • Conclusion was that there was significant water savings by customers with Beacon meters over those with Orion meters.
A2	**2016**	**Velocitron LLC**	**Micro Streams Faucet Adapter**	Install micrometer sensors in businesses in Santa Clara County to determine water use and detect leaks to help save water.	**$30,000**	**$40,000**	**Closed June 2018**	The 0.1 Gallon Per Minute (GPM) micro-stream faucet adapter developed by Velocitron was proven to be capable of providing satisfactory sensation and efficiency for common washing activities with significantly lower water consumption.
A2	**2017**	**Fisher Nickel, Inc.**	**Dipper Well Replacement**	Measure existing dipper well(s) water use and verify the savings potential through a replacement with best available technologies in a real-world food service setting.	**$37,500**	**$50,000**	**In progress**	
A2	**2017**	**Ecology Action**	**Every Drop Counts – Investigation of Water Savings from Indoor, Non-Potable Rainwater Harvesting Systems**	Partner with residential, commercial, and institutional property owners to construct and monitor water use and water quality of rooftop rainwater harvesting systems for indoor, non-potable uses such as toilet flushing and clothes washing.	**$49,940**	**$97,765**	**In progress**	
A2	**2018**	**Purissima Hills Water District**	**Residential Advanced Metering Program**	Purchase and install 600 advanced metering devices to demonstrate that Advanced Metering Infrastructure (AMI) is an efficient tool to achieve sustained water savings in Purissima Hills Water District (PHWD) service area. This follow-on program will provide the funds to substantially complete the AMI program throughout the PHWD system.	**$50,000**	**$163,969**	**In progress**	
A2	**2018**	**Trust for Conservation Innovation DBA Multiplier**	**Beyond Leak Detection**	The purpose of this pilot study is to characterize the typical water savings – both from leak detection and water conservation behavior – that household experience following installation of a next-generation leak detection device. The study will evaluate two devices found to have design features well-suited to encouraging water conservation.	**$50,000**	**$66,667**	**In progress**	

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

A2	**2018**	**PS Creations LLC**	**PlateScrape**	The PlateScrape is a device built to pre-sanitize plates more efficiently and is estimated to use more than 75% less water than current spray off methods. The goal of the project is to pilot test the new technology to determine water and/or energy savings.	**$30,192**	**$60,392**	**In progress**	
A2	**2019**	**Purissima Hills Water District**	**Echologics EchoSohre DX Leak Project**	Purissima Hills Water District will test the efficacy of Echologics EchoShore DX Leak detection in reducing water throughout the distribution system. This Project is in alignment with Valley Water's mission to provide Silicon Valley with safe, clean water for a healthy life, environment and economy, and is in line with the grant goals of identifying water saving devices and strategies that can assist Valley Water in meeting its long-term water savings goal of 98,500 acre-feet per year by 2030.	**$30,000**	**$111,530**	**Agreement execution in progress**	
				A2 Sub-Total	**$956,132**	**$1,513,750**		
B3	**2014**	**San José Parks Foundation**	**Trash Free Coyote Creek Cleanup and Surveillance Project**	The goal is to create a trash free zone in the Coyote Creek riparian corridor between Tully Road and Hellyer Park (including the park) so as to reduce trash and pollution and their associated impacts on water quality and fishery beneficial uses.	**$26,783**	**$80,760**	**Closed Sept. 30, 2015**	• 14 cleanups. • More than 80,000 pounds trash removed. • 1,296 volunteers participated in a 3-hour event. • Monthly coordination meetings with Park Rangers, Environmental Services and Valley Water.
B3	**2014**	**California Product Stewardship Council**	**Secure Pharmaceutical Collection Bin Expansion**	The project will prevent pharmaceutical waste from contaminating waterways by establishing 50 new convenient and secure pharmaceutical collection bins in pharmacies, hospitals and police stations in Santa Clara County that will be distributed to increase convenience to all county residents.	**$206,417**	**$276,352**	**Closed June 30, 2017**	• 29 collection sites installed in local pharmacies and a few fire and police departments. • More than a ton-and-a-half (3,280 pounds) of prescription medication has been collected from the bins; some sites were emptied every week. • Produced a video to educate county residents about the consequences of improper medicine disposal as well as the appropriate disposal method.
B3	**2014**	**West Valley College**	**West Valley College Parking Lot 2 Stormwater Pollution Reduction Project**	Implement West Valley College Stormwater Pollution Reduction Plan through installation of stormwater improvements within Parking Lot 2. Stormwater planters will be constructed in the northern sections of the existing parking lot landscape islands and in the northeastern corner of the parking lot. The planters will treat runoff from the parking lot asphalt, concrete, and interior landscaping areas. After treatment, the stormwater will discharge to existing storm laterals off of Allendale Avenue.	**$200,000**	**$1,052,054**	**Extended to June 30, 2020**	
B3	**2014**	**County of Santa Clara (Partnership)**	**Green Business Program**	Valley Water continues to partner with the Santa Clara County (County) Green Business Program and provides funding for Green Business certifications to promote the awareness and increase the number of certifications and re-certifications.	**$240,000**	**$240,000**	**Closed June 30, 2016**	The partnership funded the certification of a maximum 75 business over the 3-year period. During this period, the County of Santa Clara's Green Business Program achieved the following: • 90 business certified/recertified in FY14; • 75 businesses certified/recertified in FY15; • 103 businesses certified/recertified in FY16; • An advertisement campaign in FY16 geared towards reducing urban runoff from businesses. The campaign included videos, media ads, events, website, etc. Over the 3-year period, the program achieved the following results: • 584,357 milligrams mercury reduced; • 740,875,831 pounds solid waste diverted from the landfill; • 955,408,254 pounds/tons Greenhouse Gas Emissions reduced; • 7,075 gallons fuel saved; • 530,483 gallons grease recycled; • 137,936,466 gallons water saved; • 410,335,999 kWh energy saved.
B3	**2015**	**City of San José (Partnership)**	**San José Watershed Community Stewardship & Engagement Project**	The work will provide community engagement, outreach and education to engage the homeless population, and provide trash cleanup in both Coyote Creek and Guadalupe River. The work will be conducted in socio-economically diverse neighborhoods along two (2) different watersheds.	**$546,250**	**$1,090,000**	**Closed June 30, 2018**	Final report in development.
B3	**2015**	**Silicon Valley Senior Services**	**Environmental Assist Pharmaceutical Pick- Up (EAPP) Program**	EAPP's dedicated volunteers in conjunction with local police/sheriff departments help decrease the amount of pharmaceuticals in our drinking water by assisting seniors and the disabled for safe pick-up of pharmaceutical waste; and providing information and education to Santa Clara County residents about safe disposal.	**$90,525**	**$152,185**	**Cancelled**	
B3	**2016**	**West Valley College**	**West Valley College North Walk Storm Water Quality Improvements**	Treat runoff from six (6) acres in the North Walk and Parking Lot 6 sub-watersheds. The project includes the installation of storm water planters, rain gardens and bio-swales to promote infiltration and provide water quality treatment.	**$71,068**	**$648,301**	**In progress**	

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

B3	**2016**	**South Bay Clean Creeks Coalition**	**South Bay Creek Cleanup Program**	The SBC3 Program recruits volunteers through trail & park tabling, canvassing adjacent neighborhoods. These volunteers can participate in TEAM 222 Clean Up program which conducts clean ups every other month at multiple sites, including corporate events; and work on citizen monitoring network.	**$60,000**	**$80,000**	**Closed June 30, 2017**	• 14 Cleanups. • 9.9 tons of trash collected. • 442 Volunteers; 946 volunteer hours. • Nine (9) community presentations. • Developed outreach materials, including art work and video about spawning Chinook Salmon. • Conducted social media outreach. • The Coalition won the Governor's Environmental and Economic Leadership Award.
B3	**2016**	**San Francisco Bay Wildlife Society**	**Don Edwards San Francisco Bay NWR Clean-Up 2016**	Collaborate with San José Conservation Center and Volunteers from Don Edwards San Francisco Bay NWR to remove trash from south San Francisco Bay tidal marshlands, mudflats and adjacent uplands in Santa Clara County. Integrate Litterati™ a social media technology, to create a litter database for long-term trash reduction and provide an interpretive display for education and outreach.	**$35,391**	**$73,390**	**Closed December 31, 2017**	The project accomplished the following: • Removed 6280.6 lbs (3.14 tons) of trash during 45 days of Litterati cleanups accomplished by 438 people. • In addition to the Litterati cleanups, 4,403 people were reached through five (5) outreach events in Santa Clara County. • Documented 13,002 photos with the Litterati app of every piece of trash collected and disposed of properly. • Cleaned 79.95 linear miles of refuge land and cleaned 100% of each first priority location, including Pond A-8, Pond A-17, Pond A-5/A-7, and Pond A-16. • Removed 509 bags of trash and cleaned 50% of a second priority area at Pond A-15. • Provided 14 presentations about trash prevention and Litterati to community organizations and volunteer groups.
B3	**2016**	**Santa Clara County Creeks Coalition**	**Trash Free North Coyote Creek Watershed Stewardship and Engagement Project**	Conduct 12 volunteer trash cleanups and outreach activities, conduct outreach activities, recruit more than 700 volunteers from business and community organizations and implement a docent-led walks program along 5 miles of north Coyote Creek from Tasman Drive to Jackson Street.	**$89,399**	**$142,239**	**Closed January 10, 2018**	• Conducted 24 cleanup events and removed more than 30 tons of trash from the banks of Coyote Creek in north San José. • Recruited more than 800 volunteers to assist with trash removal and learn about pollution prevention and ecological restoration of the creek. • Delivered 13 presentations to community organizations and attended 12 community events to inform the public about Coyote Creek and opportunities to be stewards of the creek. • Implemented a docent training program and led 10 public nature walks along Coyote Creek. • Documented changes in creek encampments along Coyote Creek, between Watson Park and Tasman Drive.
B3	**2016**	**Acterra Stewardship**	**Greening Urban Watersheds**	Over a 3-year period, provide designs for 4 rain barrels, 2 cisterns and 4 bio-retention/rain garden projects; coordinate 12 hands-on workshops to install rain barrels/gardens on city properties, and conduct 21 community creek cleanup events along 3 creeks; remove 13,000 pounds of trash from 4 miles of riparian corridors.	**$93,617**	**$189,261**	**In progress**	
B3	**2016**	**Regents of the University of California**	**Effective Storage and Composting of Livestock Manures**	Over a 45-month period, establish demonstration sites at 4 locations at McClellan Ranch, Emma Prusch and Martial Cottle Parks and the South County Airport. Outreach to livestock owners for proper manure storage and safe composting. The work will minimize pathogens from manures from entering storm water and creeks by demonstrating effective and safe composting.	**$60,000**	**$213,845**	**In progress**	
B3	**2016**	**County of Santa Clara (Partnership)**	**Pollution Prevention and Zero Waste Project**	Implement the Green Business Program, a third-party verified compliance-based program addressing surface water quality, storm water protection, pollution prevention and education. The program identifies pollution sources and provides ways to reduce use of toxic materials, and implement storm water protection practices. The program benefits water quality by avoiding impacts of improper management and air deposition on water.	**$200,000**	**$690,000**	**In progress**	
B3	**2018**	**City of San José (Partnership)**	**Pollution Prevention and Creeks Cleanup**	In partnership with City of San José, Valley Water will provide support to Downtown Streets Team, a local non-profit that engages the homeless community through outreach and education to actively work to maintain litter free waterways.	**$195,000**	**$495,000**	**Closed June 30, 2019**	• Final report in development.
B3	**2018**	**Loma Prieta Resource Conservation District**	**Reducing Pollutant Source Loads**	Loma Prieta Resource Conservation District (LPRCD) in Santa Clara County in partnership with the University of California Cooperative Extension (UCCE) and the United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS) will provide four-prong outreach and assistance to limited resource socially disadvantaged Chinese-speaking farmers in Santa Clara County. Each prong of our approach will generate specific outputs and anticipated outcomes, which will be assessed with performance measure outcomes.	**$70,636**	**$121,436**	**In progress**	
B3	**2018**	**Downtown Streets Team - Sunnyvale**	**El Camino Clean Up**	Prevent litter from entering the water ways along El Camino Real, between Mary Ave and Wolfe Rd. by having volunteers daily picking up litter in the gutters and provide outreach by passing out pocket ashtrays to smokers and providing literature and education to the community.	**$122,280**	**$190,828**	**In progress**	

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

B3	**2018**	**Downtown Streets Team - Penitencia**	**Penitencia Creeks Team**	Downtown Streets Team (DST) will work to improve water quality through reducing homelessness and the associated impacts of trash and debris on Penitencia Creek. DST will directly impact water quality by recruiting and organizing program participants living within the Project Area, along the Penitencia Creek, to clean the Penitencia Creek riparian corridor of debris and trash. DST will also conduct peer to peer outreach to assist other individuals outside the program to transition to housing and to communicate water quality concerns and encourage environmentally responsible behavior in the homeless population.	**$122,280**	**$196,816**	**In progress**	
B3	**2018**	**Santa Clara Valley Transportation Authority (VTA)**	**Keep Santa Clara Valley Beautiful**	Keep Santa Clara Valley Beautiful project will develop a focused comprehensive countywide program to reduce litter on Santa Clara County's freeways and contaminants from entering in nearby underground watersheds and creeks. The proposed project will include the following key elements: • Partnering with a national subject matter expert in the community environment preservation field, who will deliver a customized litter prevention program, develop a marketing campaign, and provide technical training for local staff and community leaders. • Procurement and installation of litter enforcement signs at "hot spot" locations. • Organizing two to three local volunteer litter clean-up events and one litter prevention summit. The primary objective of the Keep Santa Clara Valley Beautiful project is to implement a sustainable countywide litter prevention program with measurable benefits that facilitates positive, meaningful and lasting community behavior change.	**$78,285**	**$104,380**	**In progress**	
B3	**2018**	**Grassroots Ecology**	**Westwind Barn Stormwater Infiltration Project**	Grassroots Ecology will bring together volunteers and community partners to increase stormwater infiltration at Westwind Community Barn in the upper Adobe Creek watershed. A set of horse paddocks was recently disassembled in a seasonally wet area of the property, and horses are still stabled at the barn located immediately above Moody Creek in Los Altos Hills. The newly decommissioned paddock area presents an opportunity to enhance stormwater infiltration and water pollution filtration above Moody Creek. Through the proposed project, Grassroots Ecology will install a series of berms and contour plantings to slow and treat surface runoff as it approaches the creek, and densely plant low-lying areas to further slow and sink runoff. Volunteers will help create berms using nuisance vegetation removed from the project site, install strategically placed native plants along the contour and in topographic low points, and monitor progress by collecting data on water quality above and below the project site.	**$70,605.60**	**$118,219**	**In progress**	
B3	**2018**	**City of Milpitas**	**Contaminant Overflow and Backflow Prevention Project**	The funds from the B3 grant will provide the City of Milpitas with the opportunity to expand the City's Contaminant Overflow and Backflow Prevention Project. During the Project, the City will install additional SmartCovers to equip the City with high-tech devices that will alarm City Employees of any possible contaminants in waterways. The Contaminant Overflow and Backflow Prevention Program has, and will continue to, enrich the community with knowledge of the City waterways and City techniques to prevent contaminated overflow, or backflow, into City and nearby, creeks.	**$30,745**	**$85,383**	**In progress**	
B3	**2019**	**City of San José (Partnership)**	**Tully Road Ballfields Creek Cleanup Project**	The City will engage in a Creek Cleanup Project to address litter, trash and illegal dumping throughout Council District 7 to reduce trash-related blight. Additionally, the Project will focus on removing debris that pollutes Coyote Creek by coordinating cleanups, abating homeless encampments, investigating the installation of barriers to reduce re-encampment and engaging the community to address litter and trash.	**$200,000**	**$331,900**	**In progress**	
				B3 Sub-Total	**$2,809,282**	**$6,572,349**		
B7	**2014**	**Acterra**	**Acterra Lower Peninsula Healthy Creeks Project**	The Acterra Lower Peninsula Healthy Creeks Project brings together the resources and talents of nonprofit organizations, academic institutions, municipalities, government agencies, and the general public to provide a variety of hands-on creek stewardship activities and watershed education events designed to attract participants of all ages.	**$68,600**	**$179,910**	**Closed Sept. 30, 2016**	• 4,225 participants (1,305 volunteers and 2,920 education participants). • 24 volunteer water quality monitoring events on Stevens, San Francisquito (and its tributaries), Matadero, Barron, and Adobe Creeks. 17 events on Permanente Creek. • High quality data for 23 water monitoring sites and seven (7) benthic macroinvertebrate sites. • 14.75 miles of riparian areas cleared of trash. • 18,180 pounds of trash collected. • 10 World Water Monitoring Challenge events. • Eight (8) quarterly Watershed Forums. • 10 newsletters.
B7	**2014**	**Environmental Volunteers**	**Education for Clean Water**	The Education for Clean Water Project will leverage the Environmental Volunteers' skilled and committed base of volunteer docents to deliver hands-on, Citizen Science based Water Resources education to school classrooms and the general public.	**$25,092**	**$30,271**	**Closed June 30, 2015**	Conducted education activities in the Palo Alto Baylands Nature Preserve, utilizing the EcoCenter facility and the ecologically rich marshland surrounding it: • Developed and produced site resource guide; • 35 volunteer docents trained in new curriculum; • 12 local elementary school classrooms (more than 300 students) participated in field study excursions; • 818 community members participated in clean water education program, including art show featuring thematic works by local school children; earth day event; Girls-in-Science forum; and drop in visitors at the EcoCenter; • Citizen science data collection and data-sharing through Field Scope, a citizen science data sharing project; • Youth Leadership Board developed a new website promoting wise water use.

B7	**2014**	**Clean Water Fund**	**ReThink Disposable: Preventing Riparian Trash at the Source**	This is the continuation and expansion of a public-private partnership project involving Clean Water Fund (the project lead), and local government. The project (originally Taking out the Trash, but renamed ReThink Disposable), is currently a partnership with the cities of Oakland, San José, South San Francisco, San Francisco, the County of San Mateo, and Stop Waste of Alameda County.	**$82,133**	**$174,036**	**Closed Dec. 31, 2016**	• Successful Coordination with the cities of San José, Cupertino and Sunnyvale.
								• 91 food businesses and 8 institutions received promotional materials to participate in the free ReThink Disposable audit and technical assistance.
								• Eight (8) presentations to various business associations and corporations in the county to promote the program to the target food business.
								• 12 food businesses and one (1) institution successfully completed the ReThink Disposable audit yielding the following ANNUAL impact numbers:
								  • 1,424,038 pieces of disposable food ware items eliminated;
								  • 24,265 pounds of waste prevented;
								  • $5,963 average cost savings after payback period was met.
								• Four (4) creek cleanups with 127 volunteers removing almost 4,000 pieces of trash and debris (mainly plastics) from "hot spots" on Calabazas and Coyote Creeks.
								• Engaged almost 30,000 residents in the County with the new ReThink Disposable Source Reduction Pledge.
								• Hosted one (1) ReThink Disposable Free Community Workshop and Training with almost 60 attendees from watershed and creek groups, teachers, and local government staff.
								• Coordinated with the Green Business Program on outreach and adoption of waste prevention best management practices for food businesses.
								• Developed a new public education tabling pop-up display.
								• San José's Hauler, Republic, promoted ReThink Disposable in a feature article in their quarterly newsletter mailed to 30,000 accounts.
								• The successful results from the Valley Water grant in the three pilot cities led to two new contracts with the City of Palo Alto and the Santa Clara Recycling and Waste Reduction Commission totaling $230,000 over the next three years. This will fund 60-80 more ReThink Disposable certified food businesses and 3-5 institutions in the county.
								• CWF's ReThink Disposable wins the 2015 Governor's Award for Environmental and Economic Leadership and the 2016 California Resource Recovery Association's Excellence in Waste Prevention Award.

B7	**2014**	**City of Sunnyvale**	**Schools Goin' Green**	The cities of Sunnyvale and Cupertino are proposing to partner locally with 2-3 middle schools and two (2) high schools, through their service organizations or environmental clubs, to clean up litter on and around their school campuses and neighborhoods and to implement student-led campaigns to change the littering behavior of fellow students.	**$32,250**	**$47,448**	**Closed June 30, 2016**	Six (6) schools participated in the effort to clean up litter on and around their school campuses and neighborhoods and to implement student-led campaigns to change the littering behavior of fellow students. Five (5) of the six (6) schools also established ongoing campus Green Teams. Among the major outcomes: • 3,421 youth participated in project events; • 98 cleanups over the course of the project; • More than 4,189 pounds of litter collected; • All teams participated in the City's Students Living Green App Challenge in April 2016; • Youth designed a logo for Schools Goin' Green. The project was identified as an outstanding stormwater project by the California Stormwater Quality Association (CASQA).

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

B7	**2014**	**Girl Scouts of Northern America**	**Girl Scouts Go Green in Santa Clara County**	To implement an environmental outreach and education program focusing on the Priority B7 theme to "provide education and outreach for reducing pharmaceutical waste and other pollutants in our waterways (showing a benefit through awareness and engagement)."	**$44,116**	**$56,205**	**Closed July 31, 2016**	The 10-week afterschool environmental stewardship program was held at 18 partner sites in Santa Clara County in which: • 487 girls participated. • At least 4-8 hours were spent on hands-on environmental learning. • At least 4-6 hours were spent on environmentally-focused field trip. • At each partner site girls engaged in two community action projects. • More than 7,500 community members were reached through each of the girl-led community action projects. By the end of the program: • 82% of participating girls were able to name two or more actions they can personally take to prevent waste or pollutants from entering waterways, as measured by the post-program surveys. • 97% of participants were able to explain why mercury and pharmaceuticals are harmful when they enter our waterways, as measured by instructor observation. • 80% of participating girls reported that they could have a job that helps the environment, as measured by post-program surveys. • 91% of girls showed increased interest level in learning about environmental science, as measured by post-program surveys.
B7	**2014**	**Save the Bay**	**Clean Bay Project**	The project will build on the strong track record of supporting municipalities and community groups to eliminate significant components of plastic trash in storm water and reduce highly toxic tobacco litter in the San Francisco Bay to benefit water quality and public health.	**$60,000**	**$241,243**	**Closed June 30, 2016**	• More than 2,200 pounds of micro-trash debris removed in Santa Clara County, specifically at Coyote Creek, through community-based restoration and trash removal projects; volunteers also assisted STB scientists with habitat restoration by cultivating native plants and removing non-native plants. • Successfully advocated for the San Francisco Bay Regional Water Quality Board adopting a much stronger Municipal Regional Stormwater Permit in November 2016. The permit now includes additional trash reduction milestones and monitoring requirements, such as 70% trash reduction by 2017; 80% by 2018. • Analyzed data from the 2015 annual reports submitted by cities, counties, and districts holding stormwater permits and using the information to support Santa Clara cities accelerate their progress towards the goal of Zero Trash by 2022. • Created a Monitoring and Education Tool for Plastic Bag Ban Ordinances (and recently added one for Styrofoam bans). It is a database of all ordinances in the San Francisco Bay Area, from Morgan Hill in the South Bay to Cloverdale on 101 North. The database is accessed through a map interface so that one can click on a community and get a popup with information about specific ordinances or progress made toward adoption of ordinances. • Carried out "Zero Trash, Zero Excuse" public education campaign. • San José's comprehensive ordinance to ban Styrofoam has now been replicated in most Santa Clara County cities. • Successfully advocated Sunnyvale adopting and strengthening its smoking ordinance, which places the city on a path to reduce tobacco litter and second hand smoke.
B7	**2014**	**San José Parks Foundation**	**Trash Free Coyote Creek Education and Outreach Project**	The "Trash Free Coyote Creek Education and Outreach Project" is (1) to reach out to neighborhood and civic groups, trail users and businesses to educate them about the potential for cleaning up and keeping the Coyote Creek clean through volunteer cleanups and (2) to enlist their participation in creek cleanups and weekly creek inspections to create a Trash Free Coyote Creek.	**$42,199**	**$59,339**	**Closed Sept. 30, 2015**	• 150 people attend a day-long Coyote Creek Howl conference held at San José State University. • Nine (9) informative brochures produced on topics such as birds, plants, geology of Coyote Creek. • 32 presentations to community organizations. • 1-2 email newsletters a month to about 1,000.

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

B7	**2018**	**Guadalupe River Park Conservancy**	**Guadalupe Watershed Education Campaign**	Project will enhance awareness of the biodiversity nurtured by Guadalupe River through programs for K-12 students, the annual Water Festival for 5thgrade students, activation of a 180-gallon aquarium, and the creation of a mural underneath the Coleman Ave. bridge.	**$28,410**	**$47,450**	**In progress**	
B7	**2018**	**Breathe California of the Bay Area**	**Youth for a Cool Earth (Y4CE)**	Youth for a Cool Earth (Y4CE) empowers youth to become environmental leaders and advocates to their peers, school, family, and community to do the same. The unique feature of the Y4CE program is that it is youth-determined and youth-directed. Will target marginalized/low-income youth.	**$35,000**	**$47,023**	**In progress**	
B7	**2018**	**Gilroy Compassion Center**	**South County Creeks Team**	Gilroy Compassion Center will partner with Downtown Streets Team, local jurisdictions, and other organizations to provide year-round outreach to homeless individuals living at target hot spots along South County Creeks. The outreach teams will provide information, encouragement, and incentives for homeless individuals to keep toxic materials, garbage, and waste out of the waterways.	**$15,000**	**$40,973**	**In progress**	
B7	**2018**	**City of Campbell**	**Los Gatos Creek Trail Interpretive Signage and Receptacle Expansion**	Project proposes to install ten environmental outreach stations along the Los Gatos Creek Trail, which parallels Los Gatos Creek and related percolation ponds. The stations, spaced along approximately 5.7 miles of the trail, would include educational interpretive signs with environmental stewardship messages related to trash and general health of riparian corridors.	**$33,731**	**$80,563**	**In progress**	
B7	**2018**	**South Bay Clean Creeks Coalition**	**Friends of Coyote Creek Watershed North Coyote Creek Stewardship Project**	Project continues to be pointing Volunteers at Stream Cleanups addressing the ongoing trash loads in our Riparian Corridor and Creek created Homeless encampments and storm run-off. Our Program conducts monthly cleanups with the goal of restoring stretches to trash free levels.	**$35,000**	**$46,655**	**In progress**	
B7	**2018**	**Girl Scouts of Northern CA**	**Green By Nature in Santa Clara County**	Project will provide all the elements of a successful meaningful watershed educational experience for students attending Title 1 schools and living in under-resourced neighborhoods in Santa Clara County using the Don't Waste that Watershed series curriculum	**$16,951**	**$23,384**	**In progress**	
B7	**2018**	**Grassroots Ecology**	**Stevens Creek Monitoring & Education Project**	Project will engage the local community in stewardship and hands-on learning. Project will provide creek-based volunteer and educational opportunities for all ages. Over the proposed three-year grant period, the project will engage 750 or more individuals and approximately 15 organizations including schools, colleges, nonprofits, and community groups.	**$34,459**	**$69,900**	**In progress**	
B7	**2018**	**Save the Bay**	**Zero Trash Campaign**	Project will evaluate annual trash reduction reports, educate and inform residents on the results of those reports, and provide particular feedback to two priority cities. We will implement effective outreach and communications strategy to increase and shape priority Santa Clara County communities' understanding of storm water pollution threats and opportunities. We also will engage 4,000 adults, teens, and children in wetland habitat restoration and/or trash cleanup projects.	**$15,000**	**$122,051**	**In progress**	
B7	**2018**	**South Bay Clean Creeks Coalition**	**Los Gatos Creek TEAM 222**	Project continues to be pointing Volunteers at Stream Cleanups addressing the on-going trash loads in our Riparian Corridors and Creek created by Homeless encampments and storm run-off. Our TEAM 222 Program conducts multiple events every other month on the second Saturday along stretches of Los Gatos Creek.	**$15,000**	**$19,995**	**In progress**	
B7	**2018**	**South Bay Clean Creeks Coalition (Partnership)**	**Guadalupe River/ Coyote Creek Watershed Community Engagement Project**	Project will conduct volunteer cleanups and educational stewardship opportunities around Guadalupe River/Coyote Creek Watershed.	**$199,353**	**$199,353**	**In progress**	
B7	**2019**	**Gilroy Compassion Center**	**South County Creeks Team**	The Project will engage local homeless individuals to go out to encampments along the creek areas of Gilroy providing services such as: outreach, education, and disposal of garbage. The project aims to reduce contaminants that are entering Santa Clara County waterways and ground water that poses an environmental threat to communities. Creek Team members will visit different hot spots in Gilroy identified by Valley Water to clean garbage and debris from creek beds. Homeless individuals will receive case management services and will be entered into the Homeless Management Information System (HMIS) and they will be given a VISPADT survey where they will be prioritized for permanent supportive housing.	**$30,000**	**$38,590**	**In progress**	
B7	**2019**	**Grassroots Ecology**	**Young Watershed Stewards Project**	Young Watershed Stewards will engage the local community in stewardship and hands-on learning that benefits the Stevens Creek, San Francisquito, and Matadero Creek watersheds within Santa Clara County. Through the Project, Grassroots Ecology will update and expand its high school stewards' programs based at Arastradero Preserve and McClellan Ranch Preserve to include watershed stewardship topics and add a community outreach component. High school stewards will engage with their local creeks through activities such as water quality testing, riparian planting, trash removal, and education on pollution entering these waterways. These stewards will take what they've learned into the broader community through a project at their school, presentations at community events, or other outreach.	**$44,301**	**$167,781**	**In progress**	
B7	**2019**	**The Tech Museum of Innovation**	**Down the Drain**	The Project will provide Down the Drain Science Labs to Title I field trip groups during the 2019-2020 and 2020-2021 school year. The Project will focus on offering resources to educators and modeling facilitation of watershed lessons. The Project will also include remediation to align educator resources to the water-related exhibits in the Tech Museum's new Solve for Earth exhibition.	**$21,811**	**$29,121**	**In progress**	
				B7 Sub-Total	**$878,406**	**$1,721,291**		

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

D3	**2014**	**Resource Conservation District of Santa Cruz County**	**Uvas Creek Steelhead Spawning Habitat**	Improve in-stream habitat in multiple locations along a 3.7 mile reach 1 below Uvas Dam.	**$446,755**	**$592,905**	**Closed November 30, 2017**	• Removed and disposed of approximately 175 acacia trees (a non-native, evergreen species which create creek habitat limitations) on two (2) project sites. The project sites were continually monitored to assess acacia regrowth and the need for active revegetation. • About 1,800 linear feet of riparian habitat was restored. • Conducted three (3) educational outreach to provide educational information for landowners, demonstrate riparian restoration efforts, and garner local support for continued efforts on Uvas Creek.
D3	**2014**	**Acterra**	**McClellan Ranch Preserve Meadow Enhancement Project**	A collaborative volunteer-based project to remove invasive plants and establish "island" of native plants within a riparian meadow adjacent to Stevens Creek.	**$164,200**	**$426,452**	**Closed June 30, 2017**	• Three (3) years of vegetation survey data showing a decrease in invasive plant population, including Italian thistle. • Close to 12,000 native plants installed covering more than one (1) acre of the meadow. • Increased habitat value and diversity as result of planting more than 30 different types of native plants. This has led to increased native wildlife (more native insects, birds, and pollinators have been seen). • More than 3,500 community members engaged through 352 volunteer events; contributing 7,427 volunteer hours.
D3	**2014**	**Santa Clara County Open Space Authority**	**Coyote Valley Open Preserve South Valley Meadow Restoration Project**	To restore the hydrologic function and habitat value to an 8.5 acre seasonal wet meadow and riparian complex by restoring more than 800 yards of altered drainages, reseeding approximately 4.5 acres with a climate-smart native plant palette, and providing an extension of connected lowland California Tiger Salamander habitat into Coyote Valley.	**$256,276**	**$579,386**	**Closed June 30, 2017**	• 8.5-acre seasonal wet meadow and riparian complex recontoured and planted with perennial grasses and native plant species. • 0.1-acre pond created on-site. • 900 feet of incised channel raised and widened. • Seven (7) granite rock weir grade control structures placed. • One (1) loose rock head cut repair structure placed. • Roughly 20% of 50-acre watershed drainage reconnected to wet meadow valley floor.
D3	**2014**	**Acterra**	**Foothills Park Riparian Enhancement Project**	To monitor, restore and enrich wildlife habitat along the Park's four (4) miles of riparian corridors in the upper San Francisquito watershed, including Los Trancos Creek and Buckeye Creek.	**$126,300**	**$293,753**	**Closed June 30, 2017**	• More than 1,300 community members engaged through 94 volunteer events; contributing 4,380 volunteer hours. • Four (4) miles of creek monitored during 21 sediment monitoring days. • Four (4) miles of creekside vegetation surveyed for pre and post project comparison. • 2,755 linear feet of invasives removes. • 1025 native plants installed. • More than 24 native species planted. • 200 willow cutting installed. • Increased native plant species richness along Los Trancos and Buckeye Creeks. • Decreased invasive plant populations including target noxious weeds.

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

D3	**2014**	**West Valley College**	**Vasona Creek at West Valley College: Stream Stabilization and Habitat Enhancement Phase 2**	Restore 400 linear feet of Vasona Creek within West Valley College Campus in order to eliminate gully erosion, protect heritage trees, and restore hydrology.	**$300,000**	**$421,732**	**Closed Nov. 15, 2016**	• 740 linear feet of severely eroded and deeply cut channel reconstructed. • 0.2 acres of native riparian vegetation seeded and planted. • 432 native plants installed, including 85 willows alongside channel. • 36 Dusky Footed Woodrat nests protected in construction area, 15 nests relocated. • 10-year Monitoring, Maintenance and Reporting Plan. • Created an active college administration/ faculty "Stream Team" integrating project into curriculum. • Created a natural outdoor "classroom" and living laboratory in newly restored creek corridor. • Raised student and public awareness of environmental issues and restoration. • Extensive public engagement with community workshops, and volunteer efforts.
D3	**2015**	**County of Santa Clara**	**Calero County Park Oak Cove & North Shore Trails**	Construct approximately five (5) miles natural-surface multi-use trails adjacent to Calero Reservoir.	**$125,980**	**$212,738**	**Extended to December 31, 2019**	
D3	**2015**	**Santa Clara County Open Space Authority**	**Outdoor Learning Center and Creek Side Valley Loop Trail**	Construct an Outdoor Learning Center within the 348-acre Coyote Valley Open Space Reserve, to serve as an outdoor classroom, a meeting location for educational and interpretive programs. This project also incorporated a 0.6 miles of ADA accessible trail.	**$200,000**	**$541,780**	**Extended to June 30, 2021**	
D3	**2015**	**West Valley College**	**Vasona Creek Trail**	The project will provide 0.33 miles of new ADA accessible trails within the West Valley College Campus.	**$171,000**	**$465,725**	**Extended to June 30, 2021**	
D3	**2015**	**San Francisco Bay Bird Observatory (Partnership)**	**Active Vegetation Management at Levees around South Bay Salt Pond**	The partnership will create transitional and upland habitats and provide the habitat structure needed by several federally listed species and state Species of Special Concern. Creating native plant communities on a 15-acre site will require two (2) years of preparation and four (4) years of phased implementation, maintenance, and monitoring. The project supports multiple Safe, Clean Water Program projects. It restores wildlife habitat; strengthens the South Bay Salt Ponds Restoration Partnership and revitalizes wetland habitat. The work also builds upon the strong existing partnership between Valley Water and the U.S. Fish and Wildlife Service to improve habitat on salt pond levees.	**$690,000**	**$1,327,106**	**In progress**	
D3	**2015**	**Trout Unlimited (Partnership)**	**Lower Uvas-Carnadero Creek Agricultural Wet Fort Alternative Design**	This partnership will result in the design of a free span bridge and the abandonment of the existing bridge. This would eliminate the fish migration barrier and improve water quality and riparian conditions. Valley Water's contribution will provide a matching fund for a state grant application.	**$24,450**	**$107,115**	**Closed May 31, 2018**	**This is a Planning/Design Project which resulted in the 100% design (civil, geotechnical, structural) of a free span bridge across Carnadero Creek which when constructed, will allow for the abandonment of an existing agricultural "wet ford" and the abandonment of several hundred feet of existing dirt farm roads and accompanying access easement along the riparian corridor on lands owned by Valley Water. The bridge has the potential to provide improved habitat and migration conditions for threatened Steelhead Trout.**
D3	**2016**	**West Valley College**	**West Valley College Wildcat Creek Native Vegetation Enhancement**	Remove approximately two (2) acres of invasive, non-native vegetation within the WVC campus and re-vegetate the area with native species, propagated from a collection of native vegetation planted on campus during past native re-vegetation efforts on campus.	**$165,000**	**$247,707**	**In progress**	
D3	**2016**	**Acterra**	**Arastradero Creek Watershed Enhancement**	Install 2,000 linear feet of swale-and-berm structures on contour in the basin feeding Arastradero Creek, and low step structures to raise the groundwater table; remove invasive plant species along 1,000 linear feet of Arastradero Creek and plant a diversity of native species in their place to increase native vegetation and support wildlife.	**$107,561**	**$217,566**	**In progress**	
D3	**2016**	**Acterra**	**Byrne Preserve Riparian Enhancement**	Restore a degraded tributary to Moody Creek located in Byrne Preserve. The work includes community engagement and education, monitoring of vegetation and channel geometry, invasive plant removal, and native plant re-vegetation.	**$136,469**	**$240,056**	**In progress**	
D3	**2016**	**Midpeninsula Regional Open Space District**	**Hendrys Creek Restoration Project**	Enhance 3/4 miles of the watershed through removing 14 in-stream structures; invasive plants from 4.44 acres of canyon; and by installing 0.33 acres of watershed specific, contract grown riparian and upload plants along the impacted creek banks and former road; and seeding 1.5 acres with native grasses, acorns and buckeye seeds on the former building pads, and improving the road located along the creek and tributaries.	**$484,650**	**$762,546**	**In progress**	
D3	**2016**	**Loma Prieta Resource Conservation District**	**Sycamore Alluvial Woodland Restoration Phase II—Feasibility**	This project includes a propagation study designed to test techniques to produce California sycamore seedlings vegetatively for use in a pilot restoration project. Study results will be shared through a high-quality PowerPoint presentation and distributed to all interested parties in the broader restoration and nursery community.	**$79,953**	**$127,705**	**In progress**	

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

D3	**2016**	**Working Partnerships**	**Coyote Creek Invasive Plant Removal and Revegetation**	Prepare a plan for a project to remove invasive plants from the Coyote Creek Watershed and re-vegetate areas of the creek with native plants. The project will hire homeless individuals or formerly homeless individuals in transition housing to do the work.	**$24,750**	**$33,000**	**Closed February 20, 2018**	• Identified and completed mapping of invasive plant species in six (6) acres of private land along Coyote Creek. • Secured the California Conservation Corps as the employer of record to manage recruitment, selection, and social support for a crew of 10 formerly homeless or disadvantaged youth. • Developed a training and volunteer program, project cost estimate, and schedule to complete the work over a 5-year period. • Performed a biological assessment on the potential impacts of the project.
D3	**2016**	**City of Mountain View**	**Permanente Creek Watershed Enhancement Project**	Project will involve the removal of trash and non-native invasive plants along 2,350 linear feet of Permanente Creek. 1,000 local watershed plants will be revegetated along the creek providing habitat enhancement for multiple riparian species, special emphasis will be placed on enhancing habitat for two (2) special status species: burrowing owls (foraging habitat) and the San Francisco common yellowthroat (nesting and foraging habitat). This project will provide a unique educational opportunity for the local community, businesses and several educational establishments who will volunteer on this project along with Santa Clara Valley Audubon Society and Acterra.	**$43,920**	**$64,582**	**In progress**	
D3	**2016**	**Save The Bay**	**Palo Alto Baylands Tidal Lagoon Transition Zone Habitat Restoration Project**	Save The Bay will restore and enhance 1.25 acres of high value tidal marsh transition zone habitat at this site immediately adjacent to existing tidal salt marsh in the Palo Alto Baylands Nature Preserve. It will create or improve crucial habitat that provides connectivity and refugia for waterfowl, shorebirds, and other species such as the federally- endangered Ridgway's Rail and salt marsh harvest mouse. Our project is ready to implement and will increase the adaptive capacity and resilience of tidal marsh species by enhancing the plant community and wildlife habitat both now and in light of future predicted sea level rise scenarios.	**$95,868**	**$235,335**	**In progress**	
D3	**2016**	**City of Santa Clara**	**Ulistac Restoration 2016 Project**	Ulistac Natural Area is a 40-acre open space preserve bordering Guadalupe Creek. Ulistac Restoration 2016 Project will improve trails and ramp access to the levee, restore 1.2 acres of riparian habitat along the Guadalupe River and enhance 1.26 acres of Live Oak Woodland habitat through removal of invasive non-native plants and trees, planting of native species, and documentation of native tree survival. Grant matching funds (25%) will be provided through City of Santa Clara CIP fund #3179 ($25,000) and volunteer labor donation (6450 hours, or $77,400 equivalent), in cooperation with Ulistac Natural Area Restoration & Education Project, Inc. and partnership with Santa Clara University Department of Environmental Studies and Sciences and Santa Clara Audubon Society. (Authorized by City Resolution #16-8301.)	**$165,249**	**$374,533**	**In progress**	
D3	**2016**	**Friends of Stevens Creek Trail**	**Stevens Creek Steelhead Passage Improvement Project**	Conduct a Phase 1 study plan to (1) analyze alternatives and identify a preferred alternative for improving fish passage and (2) develop alternatives and identify a preferred alternative to improve fish migration at project sites.	**$52,162**	**$75,332**	**Closed December 7, 2017**	• Identified potential engineering solutions to eight fish passage impediments. • Provided hydraulic analysis, conceptual drawings, and estimated costs for projects at the selected locations. • Conducted two workshops to present the purpose of the study and the proposed solutions with stakeholders and community members.
D3	**2016**	**San Francisco Bay Bird Observatory**	**Establishing Forster's Tern Nesting Colonies for the South Bay Salt Pond Restoration Project Using Innovative Technologies**	This project will deploy and maintain 300 decoys and six (6) electronic call systems during the 2017 and 2018 breeding seasons (March-August) to attract birds to nest. Findings will be shared with the Don Edwards San Francisco Bay National Wildlife Refuge and the South Bay Salt Pond (SBSP) Restoration Project's outreach program; through Project's website, newsletter, and presentations at stakeholder meetings. Using innovative technologies, this project aims to re-establish a healthy nesting population of at-risk Forster's terns in Alviso Pond A16 on the Don Edwards San Francisco Bay National Wildlife Refuge. Benefits of this project include attraction of 50 or more Forster's tern breeding pairs to Alviso Pond A16 and establishment of nesting colonies with nest success rates of 60% or more.	**$217,032**	**$294,074**	**Closed April 30, 2018**	During the project, SFBBO deployed 300 Forster's tern decoys and six electronic call systems on six islands in Pond A16 during the 2017 breeding season. Bird surveys were conducted between March and August 2017 to evaluate bird response and the results of the project suggest that implementation of decoys and electronic call systems was successful in attracting Forster's terns in Alviso Pond A16. • 197% increase in the number of Forster's terns in the pond in May 2017 compared to similar results recorded in May of 2016. • More Forster's terns were observed around island with decoys and electronic call systems compared to islands without them, an approximately 6:1 ratio. • Eight (8) Educational outreach activities were completed: development of a project website, one (1) educational video, three (3) public presentations, one (1) publication of popular article, two (2) visits with local elementary school students.
D3	**2016**	**City of San José**	**Evergreen Creek Corridor Restoration**	The City will correct the poor placement of outlets in the sedimentation basin above the project sites and restore vegetation. Valley Water funded work will focus on removing 6.2 acres of non-native landscape; establishing irrigation and planting native plants along Quimby Creek and Upper Fowler Creek.	**$191,041**	**$502,039**	**In progress**	
D3	**2016**	**Children's Discovery Museum of San José**	**Bill's Backyard: Bridge to Nature**	CDM is developing a 27,500 square foot outdoor space named Bill's Backyard: Bridge to Nature. It will feature a tree structure to climb up, a hillside to roll down with tunnels to crawl through, a dig pit to shovel in, a dry creek bed to explore that mimics the adjacent Guadalupe River, and areas to build with natural materials like willows, reeds and grasses. Families will also have the chance to see demonstration projects and sustainability solutions up-close, providing xeriscape ideas to consider for use in their own backyards, such as permeable hardscape, drought-tolerant and native plants, rain gardens to retain surface water, water collection systems and solar panels. Valley Water funds will support the work for eliminating all grass and plant native plants for increased bio-diversity in the riparian environment and attract beneficial insects, migratory birds, small mammals and even Monarch butterflies.	**$142,771**	**$404,240**	**In progress**	

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

D3	**2016**	**Santa Clara Valley Chapter of the California Native Plant Society**	**Plant Pathogen Training and Education at CNPS Nursery**	Develop instructional/training videos to educate nursery professionals in pathogen control Best management practices (BMPs); promote safe use of California native plants through outreach and education events hosted by the California Native Plant Society (CNPS) throughout Santa Clara Valley Watersheds, and provide a demonstration and training sites at CNPS Nursery in Hidden Villa, Los Altos Hills, to implement plant pathogen control BMPs onsite, to share successes and lessons with other nurseries, and train volunteers and the larger community in pathogen control best practices.	**$50,574**	**$83,505**	**Cancelled**	
D3	**2016**	**Campus Community Association**	**Metcalf Ponds Parkway Lakes Steelhead Habitat and Passage Improvement Project**	Conduct a planning study to evaluate alternatives to improve steelhead trout habitat and passage in the Metcalf Ponds reaches of Coyote Creek by separating the creek from the ponds, revegetating the restored creek with native riparian vegetation, and configuring the channel to optimize its habitat value while preserving the ponds' water management functions of Valley Water.	**$31,684**	**$42,278**	**Closed July 26, 2018**	• **The final results of the project found that it should be feasible to develop a beneficial restoration design for Coyote Creek and floodplain through the Metcalf Ponds reach, which would allow fish passage, improve ecological and geomorphic function, and contribute to reducing water temperatures, while maintaining the dominant portion of the current percolation capacity.**
D3	**2018**	**City of Morgan Hill**	**West Little Llagas Creek Interpretive Wildlife Trail Project**	The project proposes to construct a two-mile trail that will extend from Watsonville Road south and around the southeastern end of Lake Silveira near Monterey Road and California Avenue. It will also connect to the existing trail system that runs north, thus creating a continuous, uninterrupted pedestrian and bicycle pathway from the Lake Silveira Park area to Morgan Hill's downtown core. Trail users will have access to a unique interpretive experience of local wildlife and wetlands.	**$200,000**	**$998,800**	**Agreement execution in progress**	
D3	**2018**	**Midpeninsula Regional Open Space District**	**Webb Creek Bridge**	Project proposes to construct a new bridge over Webb Creek in Bear Creek Redwoods Open Space Preserve as part of a multi-phased plan to open the preserve for public access. The bridge will open approximately four miles of trails and facilitate a future regional multi-use trail connection between the Lexington Basin and Skyline, as well as ensure emergency service access is possible throughout the preserve.	**$149,500**	**$316,650**	**In progress**	
D3	**2018**	**West Valley College**	**West Valley College Vasona Creek Trail Phase 2**	The project proposes to complete the design and construction of Phase 2 of the Vasona Creek Trail providing access to more than 20 acres of recently restored riparian corridor on the West Valley College campus.	**$221,500**	**$655,214**	**In progress**	
D3	**2018**	**Grassroots Ecology**	**Adobe Creek Corridor Extension Project**	Grassroots Ecology will partner with the City of Los Altos to restore native vegetation along an approximately 500-foot reach of Adobe Creek extending from the southern gate of Redwood Grove Nature Preserve to Mansara Way. Project activities include removal of invasive plant species, installation of native understory species with container plantings, maintenance of invasive plant removal and planting zones for four years, and community outreach and education.	**$150,753**	**$236,777.50**	**In progress**	
D3	**2018**	**Grassroots Ecology**	**Matadero Creek Corridor Project**	Grassroots Ecology, through a partnership with City of Palo Alto, will restore native vegetation along a reach of Matadero Creek forming the northeastern boarder of Bol Park. For the past several years, Grassroots Ecology has worked on a segment of the creek but with limited resources. This grant will support a more intensive effort to increase the habitat quality on this creek corridor.	**$49,356**	**$83,918**	**In progress**	
D3	**2018**	**San Francisco Bay Bird Observatory**	**Establishing Forster's Tern Nesting Sites Project**	Using innovative technologies, this Project aims to establish a healthy nesting population of at-risk Forster's Terns in Alviso Pond A16 for the South Bay Salt Pond (SBSP) Restoration Project and Don Edwards San Francisco Bay National Wildlife Refuge. The project will directly impact two (2) acres of island nesting habitat and 240 acres of wetland habitat within Alviso Pond A16, and indirectly impact up to 14,000 acres surrounding the Alviso Pond A16 nesting site through bird foraging behaviors.	**$164,000**	**$218,674**	**In progress**	
D3	**2018**	**San José Conservation Corps**	**Coyote Creek Vegetative Restoration and Disadvantaged Youth Career Path Project**	The Project will remove 111,000 sq. feet of invasive plants and replace them with native plants on seven (7) acres of private property along Coyote Creek north of Berryessa Road, San José. This will restore a native plant assemblage on this section of Coyote Creek and have watershed scale benefits by preventing reinfestation by invasive species of downstream properties for which invasive plant removal has recently been effected by the SCWD.	**$389,024**	**$533,115**	**In progress**	
D3	**2018**	**South Bay Clean Creeks Coalition**	**Los Gatos Greek Trestle Area Restoration Project**	The Los Gatos Creek Trestle Area Restoration Project will be implemented on a reach of Los Gatos Creek centered on the historic trestle accessible from Lonus Street in the City of San José to restore riparian habitat through the removal of invasive plants and the installation of native vegetation.	**$229,923**	**$462,323**	**In progress**	
D3	**2018**	**Santa Clara Valley Habitat Agency**	**Pacheco Creek Stream and Riparian Restoration Project**	Project will involve restoration of riparian and protected species habitat in the Pacheco Creek Reserve. The project will focus on five specific restoration activities; bank stabilization; riparian restoration to filter runoff and control erosion; riparian planting and management; floodplain function restoration and instream structures; as well as management and monitoring. The project also includes preliminary project planning, design and permitting, as well as mapping and wildlife surveys.	**$500,000**	**$1,774,400**	**Agreement execution in progress**	
D3	**2018**	**Friends of Stevens Creek Trail**	**Stevens Creek Steelhead Passage Improvement Project**	Project will provide construction of instream features at the Deep Cliff Golf Course on Stevens Creek in Cupertino to facilitate juvenile steelhead trout upstream passage (design, permit, construction).	**$120,000**	**$176,850**	**Agreement execution in progress**	
D3 Mini-Grant	**2018**	**Bay Area Older Adults**	**Watersheds & Wildlife Education Project**	Project proposes to engage older adults (50 yrs+) in watershed stewardship by: 1. Volunteering to remove invasive plants in the areas of Don Edwards Wildlife Refuge to improve the habitat in the marshlands 2. Lead 4.5 mile walks at Rancho San Antonio Open Space Preserve to educate and engage participants about flood protection 3. Lead 3-mile walk along Uvas Creek to educate participants about wildlife preservation in the creek and reservoirs	**$5,000**	**$6,650**	**Closed**	• **Final report in development**
D3 Mini-Grant	**2018**	**Grassroots Ecology**	**Grassroots Ecology College Internship Program**	Project proposes educate and train college students to restore open spaces and creeks through a combination of field work, interpretive hikes, independent study, and capstone projects. The interns will work on restoration projects throughout the county watersheds and also learn about fish passage issues.	**$5,000**	**$34,360**	**Closed**	• **Final report in development**
D3 Mini-Grant	**2018**	**Guadalupe River Park Conservancy**	**Next Generation Science Standards Curriculum Development and Training**	The project proposes to update their curriculum to support Next Generation Science Standards that will help emphasize the importance of healthy watershed and support the training of guides to lead field trips for approximately 2,000 k-8 students.	**$4,976**	**$6,634**	**In progress**	
D3 Mini-Grant	**2018**	**Living Classroom**	**Creating Native Habitats in Schoolyards: Crittenden Middle School**	Project proposes to work with Crittenden Middle School in Mountain View to restore a native plant garden to help engage and educate students, teachers, parents and the public about local native plants. The garden will be used as an outdoor learning classroom for teachers. Project will also provide lessons to middle school students on California's Biodiversity and Adaptation of California Native Plants that will likely reach nearly 400 students	**$5,000**	**$7,000**	**Closed**	• **Final report in development**
D3 Mini-Grant	**2018**	**Living Classroom**	**Development and Implementation of "Sustainable Soil and Water" Lesson**	Project proposes to engage 5th graders in "Sustainable Soil and Water" lessons that will allow them to learn about the local watershed and how they can play a role in protecting the water quality and conserving the quantity.	**$5,000**	**$7,000**	**Closed**	• **Final report in development**

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

D3 Mini-Grant	**2018**	**Smart Yards Education Foundation**	**Earth Day Water Community Awareness**	Project proposes to partner with students and faculty from SJSU & local community colleges to teach watershed stewardship in schools in low-income neighborhoods. Students will receive hands on learning activities that will demonstrate water and soil conservation, support to identify conservation subsidies, and learn other techniques to improve the community through watershed activities.	**$5,000**	**$7,000**	**Closed**	• Final report in development
D3 Mini-Grant	**2018**	**Trout Unlimited**	**Little Arthur Creek Streamflow Stewardship Phase 2 Planning Project**	Planning for phase 2 of an existing project "Little Arthur Creek Streamflow" to improve streamflow by implementing "storage and forbearance" technique. Storage tanks would be provided to landowners who would agree to divert their water during wet season and cease all diversion during dry season.	**$5,000**	**$7,960**	**In progress**	
D3 Mini-Grant	**2018**	**Stanford Conservation Program**	**Matadero Creek Cape Ivy Removal**	Project is proposing to remove cape ivy that was introduced to CA in 1950s and have since displaced native plants in the area. If it isn't removed it can cause serious soil erosion problems on the hillside. Grassroots Ecology will be supporting the efforts.	**$5,000**	**$10,400**	**In progress**	
D3 Mini-Grant	**2018**	**Stanford Conservation Program**	**Native Hedgerow Planting as Fencing Alternative and Restoration Product in Permanent Conservation Easement**	Project proposes to plant and maintain 382 native shrubs in a hedgerow that will help restore the Deer Creek conservation easement which has been damaged by human impact over the years.	**$5,000**	**$24,870**	**In progress**	
D3 Mini-Grant	**2018**	**Stanford Conservation Program**	**Restoring Native Understory Plant Community in support of biodiversity, improved water quality, and California tiger salamanders**	Project is proposing to plant 100 understory riparian plants to support CA tiger salamander on Stanford land.	**$5,000**	**$13,000**	**In progress**	
D3 Mini-Grant	**2018**	**Stanford Conservation Program**	**Riparian Tree Planting to Expand Canopy Cover in Stream Supporting CA Red-legged Frog**	Project proposes to enhance creek and bay ecosystems by planting and maintaining 25 native trees in the easement. Will also evaluate the presence of CA red-legged frog populations.	**$5,000**	**$12,375**	**In progress**	
D3 Mini-Grant	**2018**	**San Francisco Bay Bird Observatory**	**California Gull Predator Surveys**	The project will give local residents the opportunity to learn about and explore their local watersheds as well as disseminate this knowledge to their friends and families by having them participate in a surveying effort to count and document nesting California Gulls.	**$3,000**	**$5,048**	**Closed**	• Final report in development
D3 Mini-Grant	**2018**	**San Francisco Bay Bird Observatory**	**Waterbird Monitoring in Santa Clara Salt Ponds**	The project proposes to expand their work connecting the community to the native birds in the bay through their Colonial Waterbird Program, a citizen science program that monitors nesting colonies of waterbirds within the South SFBay to document overall population trends and responses to restoration. SFBBO currently has a partnership and grant with Valley Water to accomplish restoration work in the South Bay Salt Ponds. Partial funding is recommended for this project.	**$5,000**	**$12,280**	**In progress**	
D3 Mini-Grant	**2018**	**Grassroots Ecology**	**Nursery Phytosanitation Education and Equipment Upgrade**	Project proposes to upgrade their phytisanitary tables to support the growth of native plants and allow them to host two (2) educational nursery tours for professionals and garden groups to teach them about how to integrate the latest Best Management Practices for phytosanitation.	**$3,000**	**$11,332**	**In progress**	
D3 Mini-Grant	**2018**	**Veggielution**	**Eastside Explorers Watershed Curriculum**	Project proposes to take youth from East Side San Jose on field trips to educate them about the close relationship between the environment and their local food system. The activities they conduct are centered around collaborative group tasks focused on urban agriculture, nutrition, human impacts, and ecological interconnections. Through the grant award, they will increase community awareness and understanding of watershed stewardship by incorporating a watershed-specific component into their middle school field trip program curriculum.	**$5,000**	**$7,650**	**In progress**	
D3 Mini-Grant	**2018**	**Living Classroom**	**Hoover and Nixon School Native Ecology Garden-Based Lessons**	Project proposes restore the school's native garden to be used as an outdoor classroom that will deliver watershed stewardship curriculum to over 400 students from grades K–5.	**$5,000**	**$8,000**	**In progress**	
D3 Mini-Grant	**2018**	**Living Classroom**	**El Carmelo School Native Ecology Garden-Based Lessons**	Project proposes restore the school's native garden to be used as an outdoor classroom that will deliver watershed stewardship curriculum to over 400 students from grades K–5.	**$5,000**	**$8,000**	**In progress**	
D3 Mini-Grant	**2018**	**Keep Coyote Creek Beautiful**	**Santa Clara Park BioBlitz Events**	Project proposes to engage community members through a BioBlitz event to act as citizen scientists there they explore the natural environment of plants, wildlife, and aquatic species. A part of the educational process, attendees will participate in activities that will connect them to better understanding how to protect the waterways by keeping the environment healthy.	**$5,000**	**$13,500**	**In progress**	
D3 Mini-Grant	**2018**	**Living Classroom**	**Capri School Native Garden**	Project proposes restore the school's native garden to be used as an outdoor classroom that will deliver watershed stewardship curriculum to over 400 students from grades K–3.	**$5,000**	**$8,000**	**In progress**	
D3 Mini-Grant	**2018**	**Living Classroom**	**Castlemont Elementary School Native Garden**	Project proposes restore the school's native garden to be used as an outdoor classroom that will deliver watershed stewardship curriculum to over 400 students from grades K–3.	**$5,000**	**$8,000**	**In progress**	
D3 Mini-Grant	**2018**	**Oster Elementary Home & School Club**	**Oster Elementary School Gardens**	Project proposes increase students' knowledge and awareness of watershed stewardship through the renovation and implementation of a native garden as a living outdoor classroom.	**$5,000**	**$6,250**	**Closed**	• Final reprot in development.
D3 Mini-Grant	**2018**	**Citizens for Environmental and Economic Justice (CEEJ)**	**East San Jose: Overfelt Gardens Park Community Project**	Project is proposing to engage students from SJSU to develop a pollinator native garden, document and map out non-native species using GPS technology, remove those non-native species, and pick up litter in Overfelt Gardens Park. Project also proposes to develop new K-12 curricular to help increase awareness on local habitat in the area and support educational activities at the garden.	**$5,000**	**$15,360**	**In progress**	
D3	**2019**	**Santa Clara County Office of Education (Partnership)**	**Environmental Education and Student Assessment Project**	Project will support expansion of SCCOE's Education Outreach Program and environmental education programming to reach more students, specifically in school districts that lack the resources and opportunities to implement environmental education in their classrooms.	**$50,000**	**$175,000**	**In progress**	
D3	**2019**	**City of Morgan Hill**	**Madrone Channel Trail Improvements Project**	The Project is the first phase of a two-phase project to pave an existing unpaved trail that is located on a maintenance road adjacent to the east side of Valley Water's Madrone Channel. The 2.3-mile trail runs north along the eastside of Highway 101 from Tennent Avenue to Cochrane Road. The first phase is approximately 1.1 miles.	**$120,000**	**$401,958**	**In progress**	
D3	**2019**	**City of Milpitas**	**Milpitas Lower Penitencia Creek Pedestrian Bridge Project**	The Project will provide for design and construction of a pedestrian bridge across the Penitencia East Channel between McCandless Drive and Montague Expressway. The new pedestrian bridge will connect residential developments, the Penitencia Creek multi-use trail, future McCandless Park, and the recently completed Mabel Mattos Elementary School.	**$60,000**	**$1,865,000**	**In progress**	

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

D3	**2019**	**Midpeninsula Regional Open Space District**	**Beatty Trail Connection**	The Project will create new trail and public access at the Beatty property of the Sierra Azul Open Space Preserve (OSP) through new parking area and trail connection. The trail will provide new access to regional trails, including the Bay Area Ridge Trail (Ridge Trail) and Juan Bautista de Anza National Historic Trail, while also providing new creekside trail access.	**$149,906**	**$514,351**	**In progress**	
D3 Mini-Grant	**2019**	**Bay Area Older Adults**	**Watersheds & Wildlife Education Walks**	Bay Area Older Adults (BAO) proposes outdoor educational programs for older adults age 50+ to experience Valley Water watersheds first-hand as well as teaching them about protecting local watersheds and dependent ecosystems. The educational program is focused on hands-on learning which has been shown to be more effective than learning in a classroom. 1) Three-mile eduacational walk along Guadalupe River at Ulistac Nature Area in Santa Clara 2) Two-mile educational walk along Guadalupe River in San Jose 3) Two-mile educational walk along Penitencia Creek in Alum Rock Park in San José 4) Two-mile educaitonal walk along Stevens Creek at McCleland Racn Preserve in Cupertino 5) Three-hour volunteering effort at the Don Edwards Wildlife Refuge in San José	**$5,000**	**$14,448**	**In progress**	
D3 Mini-Grant	**2019**	**Grassroots Ecology**	**Peninsula/South Bay Watershed Forum**	Grassroots Ecology's proposed project, the Peninsula/South Bay Watershed Forum, intends to increase community awareness and understanding of watershed stewardship by convening Peninsula and South Bay community members, agencies, and organizations working on watershed-related issues to connect with one another, share information, and advance policies and best practices that promote watershed health.	**$5,000**	**$9,370**	**In progress**	
D3 Mini-Grant	**2019**	**Living Classroom**	**Equity in Environmental Literacy**	Living Classroom's "Equity in Environmental Literacy" project involves planning and supervising community building workdays to engage community members in planting native tree and under story plants, and interpretive signs, to create wildlife habitat, educate the participants and future visitors regarding the value of native plants in helping to restore our native ecology, and creating more beautiful and inviting outdoor gathering places for the local community. The intended impact is multi-fold: • Pride in enhancing an important neighborhood asset—the local school grounds--thus gaining an understanding of how participants can "bring nature home" to their neighborhoods by creating habitat-rich landscapes with native plants; • Engaging a significant number of local neighborhood and school family members in a very productive, satisfying, and fun volunteer activity that will improve a sense of belonging and sense of citizenship and contribution toward the school as well as our local watershed and native ecology; and • Elevating the important role of the public school grounds as demonstration sites for native landscapes and educating visitors about how attractive, water and resource conserving native plants are and how they are critical to supporting native wildlife populations.	**$5,000**	**$32,000**	**In progress**	
D3 Mini-Grant	**2019**	**Bay Area Older Adults**	**Watershed Appreciation Program**	Project will provide four outdoor educational programs for blind older adults so they can experience Valley Water watersheds first-hand and to teach them about the Guadalupe watersheds and dependent ecosystems. The proposed project will bring blind older adults to four waterways in four different watersheds - Los Alamitos Creek and Guadalupe Slough (Guadalupe Watershed), Stevens Creek (Lower Peninsula Watershed) and Penitencia Creek (Upper Penitencia Creek Watershed)	**$5,000**	**$7,590**	**In progress**	
D3 Mini-Grant	**2019**	**Irvington High School**	**Sustainable California Initiative Project**	The Project will provide funding to support Grantee's efforts to develop a watershed stewardship curriculum that will then be presented to approximately 10 high schools and 15 Boy Scout troops in Santa Clara County. Grant funds will also be used to create posters and artwork that will be displayed at local creeks, trails and parks with an emphasis on the benefits of preserving our watersheds, as well as cleanups at the Don Edwards Wildlife Refuge, Ed Levin County Park, and Berryessa Creek Park.	**$3,230.54**	**$4,310.50**	**Agreement execution in progress**	
D3 Mini-Grant	**2019**	**Science from Scientists, Inc.**	**ECOAdventures Vacation Camp**	The Project will provide funding to support Grantee's efforts to implement two 5-day camps for 50 youths from the ages of 11 to 14 with a focus on STEM learning around our ecology, including our local watersheds.	**$5,000**	**$0**	**Withdrew**	
				D3 Sub-Total	**$7,248,583**	**$17,150,831**		
				Combined Total	**$11,892,403**	**$26,958,221**		

Note: The grantees that are lead agencies (government agencies) are responsible for ensuring their projects comply with CEQA prior to the execution of the grant agreement. Valley Water acts as the lead agency for CEQA compliance on behalf of nonprofit grantees.

Safe, Clean Water and Natural Flood Protection Program
Appendix D: Capital Projects Jurisdictional Complexities (Confidence Levels Regarding Outside Agencies) Fiscal Year 2018–2019

Partners and Outside Agencies	A3 Pipeline Reliability Project	C1 Anderson Dam Seismic Retrofit	D4 Fish Habitat and Passage Improvement		D6 Creek Restoration and Stabilization			E4 Upper Penitencia Creek Flood Protection	E5 San Francisquito Creek Flood Protection	E6 Upper Llagas Creek Flood Protection	E7 San Francisco Bay Shoreline Study		E8 Upper Guadalupe River Flood Protection		Permanente Creek Flood Protection	Sunnyvale East/West Channels Flood Protection	Coyote Creek Flood Protection
			Site 1: Almaden Lake	Site 2: Ogier Ponds	Site 1: Hale Creek	Site 2: Bolsa Road	Site 3: Los Gatos		Upstream of 101		EIAs 1-10	EIA 11	Reach 6	Reaches 7-12			
Funding																	
U.S. Army Corps of Engineers (Funding)						H		L	L	L	M	H		L			M
State Grants						H		M	M								M
San Francisco Bay Restoration Authority (Measure AA)									H			H					
Other									M								
Regulatory Permitting																	
U.S. Army Corps of Engineers (Permits)		M			H	H		H	M	H			H	H	H	M	M
California Department of Fish and Wildlife	M	M			H	H		H	M	H			M	M	H	M	M
California Department of Industrial Relations/CA Occupational Safety		M															
Department of Water Resources Division of Safety Dams		M															
Federal Energy Regulatory Commission		M															
National Marine Fisheries Service		M				H		H	M	H			H	M		M	M
San Francisco Bay Regional Water Quality Control Board	M	M			M			H	M			M	H	M	H	L	M
Central Coast Regional Water Quality Control Board						H				H							
San Francisco Bay Conservation and Development Commission												M				M	
United States Fish and Wildlife Service		M				H		H	M	H			M	M	H	M	M
Valley Habitat Plan	H	H				H		H									M
Cities																	
Cupertino	M														H		
East Palo Alto									H								
Gilroy																	
Los Altos					H	H									H		
Menlo Park									H								

Note: H– high, M– moderate, L– low
Refer to page 2 for more information on confidence level definitions.

Partners and Outside Agencies	A3 Pipeline Reliability Project	C1 Anderson Dam Seismic Retrofit	D4 Fish Habitat and Passage Improvement		D6 Creek Restoration and Stabilization			E4 Upper Penitencia Creek Flood Protection	E5 San Francisquito Creek Flood Protection	E6 Upper Llagas Creek Flood Protection	E7 San Francisco Bay Shoreline Study		E8 Upper Guadalupe River Flood Protection		Permanente Creek Flood Protection	Sunnyvale East/West Channels Flood Protection	Coyote Creek Flood Protection
			Site 1: Almaden Lake	Site 2: Ogier Ponds	Site 1: Hale Creek	Site 2: Bolsa Road	Site 3: Los Gatos		Upstream of 101		EIAs 1-10	EIA 11	Reach 6	Reaches 7-12			
Milpitas																	
Morgan Hill		M								H							
Mountain View					H						L				H		
Palo Alto									H		L						
San José	H		H					H				M	H	M			H
Saratoga	H																
Sunnyvale											L					H	
Counties																	
Santa Clara County	H	M		L				H	H	H	M			L	H	H	H
San Mateo County									H								
Other Agencies																	
California Department of Transportation (Caltrans)									H	M	M			M		H	
California State Coastal Conservancy											H	H					
Gate of Heaven Cemetery (Diocese of San José)															H		
Department of Water Resources	H								H	M							
Federal Emergency Management Agency									M	M						M	
Peninsula Corridor Joint Power Boards (Caltrain)														M			
Midpeninsula Regional Open Space District											M				H		
NASA Moffett Field											L						
PG&E	M	M			M			M	M	M		M		L	H	H	
San Francisquito Creek Joint Powers Authority									H		M						
San Mateo County Flood Control District									H								
Union Pacific Railroad	L					L				M		L		L	H		
State Office of Historical Preservation		M				H									H		
Santa Clara Valley Transportation Authority (VTA)	M							M									

Note: H– high, M– moderate, L– low
Note: Empty cells are not applicable to that project.
Refer to page 2 for more information on confidence level definitions.

Appendix E: Cumulative Trash Removal Data for Projects B1-B4, B6 and B7

E-1: Estimated volume of trash removed by project for Projects B1, B2, B4, B6 and B7[1]

Project	Estimated amount of trash and debris removed in Tons and Cubic Yards (CY)[2]			
	FY14-FY18		FY19	
	Est. Tons	Est. CY	Est. Tons	Est. CY
B1: Impaired Water Bodies Improvement (KPI #3: Trash accumulation point mapping and removal)[3]	13.2	132	3.4	34
B2: Interagency Urban Runoff Program (KPI#1: Trash booms)[4]	4.48	44.75	3.87	38.72
B2: Interagency Urban Runoff Program (Hot spot cleanup)	18.75	183.5	4.41	44.058
B4: Good Neighbor Program: Encampment Cleanup[5]	4,884	68,373	820	11,480
B6: Good Neighbor Program: Remove Graffiti and Litter[5]	530	7,408	75	1,045
B7: Volunteer Cleanup Efforts and Education (KPI #2: Cleanup day events)[6]	234	2,333	52	520
Estimated Totals	**5,684**	**78,475**	**958.68**	**13,161.78**

[1]Grants and partnership trash removal information for Projects B3 and B7 are included in Table E-4.
[2]Some estimates may have slightly varied from past annual reports due to a refinement of the conversion from cubic yards to tons; and/or data that was processed after the previous report was developed.
[3]The trash accumulation point mapping started in FY16. Due to high flows during the winter of FY17, re-mapping was delayed and conducted in May and June 2017. Trash identified as part of this mapping effort will be cleaned in FY18.
[4]The San Francisco Bay Regional Water Quality Control Board has requested that all stormwater permittees report trash in volume rather than weight. Volume is a more meaningful measure of the trash present because it is not affected by the weight of wet vs. dry trash. For Projects B1 and B2, volume is visually estimated in the field and likely includes some vegetation and debris. Where data was only collected in weight, a conversion was used based on a solid waste calculator estimating 10 cubic yards per ton. Prior conversions were not consistent; as a result, the numbers in this table may not match previously reported numbers.
[5]Tons were converted to cubic yards using an estimate of 14 cubic yards per ton, which is based on a comparison with industry standard conversions and a watershed field operations field experiment and analysis. Project B4 and B6 quantities are based on landfill weights measured in tons.
[6]Project B7 grants and partnerships (KPI #1) and Adopt-A-Creek Program (KPI #2) are not included. Grants and partnerships information is included in Table E-4. Data is currently not available for the Adopt-A-Creek Program because the trash is removed by volunteers who do not consistently measure or report their results. Volunteers use number of bags and approximate weights to estimate pounds. Using pounds simplifies measurement for volunteers and is consistent with the efforts of other jurisdictions implementing Coastal Clean Up and National River Clean Up days. Pounds were converted to tons (2,000 pounds = 1 US ton). Tons were then converted to cubic yards using an estimate of 10 cubic yards per ton. For Project B7 cleanup day even totals, the Safe, Clean Water Program funds 55% of this project.

E-2: Estimated volume of trash removed by watershed for Projects B1, B2, B4, and B6[1]

San Francisco Bay Watersheds	Estimated cubic yards (CY) of trash and debris removed[2]	
	FY14-FY18	FY19
Lower Peninsula	1,064	79
West Valley	1,705	356
Guadalupe	12,345	3,631
Coyote	53,566	6,940
Uvas/Llagas (Pajaro)	7,427	1,339
Estimated Totals	**76,107**	**12,345**

[1]Watershed information is not reported for Projects B3 and B7.
[2]Some estimates may have slightly varied from past annual reports due to a refinement of the conversion from tons to cubic yards and the timing of collecting the annual estimates.

E-3: Estimated cost of trash removal activities for Projects B4, B6, and B7[1]

Project	Estimated costs for trash removal	
	FY14-FY18	FY19
B4: Good Neighbor Program: Encampment Cleanup	$5,511,149	$968,819
B6: Good Neighbor Program: Remove Graffiti and Litter[2]	$2,004,626	$512,487
B7: Volunteer Cleanup Efforts and Education[3]	$521,437	$216,487
Estimated Totals	**$8,037,212**	**$1,697,793**

[1] Cost information for trash removal activities are not available for Projects B1 and B2 because project budgets are tracked as a whole and not by specific KPI. Grants and partnership cost information for Projects B3 and B7 are included in Table E-4.
[2] The Project B6 estimated totals were revised based upon the FY18 audited financials and revised Maximo reporting calculations.
[3] The Project B7 Adopt-a-Creek and Cleanup Day event estimated costs have been further refined to reflect additional support from other units in Valley Water. The Project B7 grant information is included in Table E-4.

E-4: Trash removal information from partnerships and grants for Projects B3 and B7

Estimated amount of trash and debris removed in Pounds, Tons, and Cubic Yards (CY) [1]									
Project	Grant Cycle	Grantee/community partner	Grant Project Name	Amount Awarded	Total Project Cost	Status	Estimated Amount of Trash Removed		
							Pounds	Tons	CY
Pollution Prevention Partnerships and Grants (B3)	FY14	San José Parks Foundation	Trash Free Coyote Creek Cleanup and Surveillance Project	$26,783	$80,760	Closed (9/30/15)	82,000	41	410
	FY16	South Bay Clean Creeks Coalition	South Bay Creek Cleanup Program	$60,000	$80,000	Completed (6/30/17)	20,000[3]	10[2]	100
	FY14	California Product Stewardship Council	Secure Pharmaceutical Collection Bin Expansion	$206,417	$276,352	Completed (6/30/17)	8,929[1]	4.5	45
	FY16	San Francisco Bay Wildlife Society	San Francisco Bay National Wildlife Refuge (NWR) Clean-Up 2016	$35,391	$73,390	Completed (12/31/17)	6,280	3.1[1]	31
	FY16	Santa Clara County Creeks Coalition	Trash Free North Coyote Creek Watershed Stewardship and Engagement Project	$89,596	$148,849	Completed (1/10/18)	60,000	30[1]	300
	FY18	Downtown Streets Team	Penitencia Creek Team	$122,280	$190,828	In progress	15,600	8	78[1]
	FY18	Downtown Streets Team	El Camino Clean Up	$122,280	$190,828	In progress	1,000	0.5	5.5[1]
	FY18	Santa Clara Valley Transportation Authority (VTA)	Keep Santa Clara Valley Beautiful Project	$78,285	$104,380	In progress	N/A	N/A	N/A
	FY19	City of San José (partnership)	Tully Road Ballfields Creek Cleanup Project	$200,000	$331,900	In Progress	N/A	N/A	N/A
Support Volunteer Cleanup Efforts and Education (B7)	FY14	Acterra	Acterra Lower Peninsula Healthy Creeks Project	$68,600	$179,910	Closed (9/30/16)	18,180[1]	9	90[2]
		Clean Water Fund	ReThink Disposable: Preventing Riparian Trash at the Source	$82,133	$174,036	Completed (12/31/16)	24,265	12.1	121
		City of Sunnyvale	Schools Goin' Green	$32,250	$47,448	Closed (6/30/16)	4,189[1]	2	20[2]
		Save the Bay	Clean Bay Project	$60,000	$241,243	Closed (6/30/16)	2,200[1]	1	10[2]
	FY18	South Bay Clean Creeks Coalition	Los Gatos Creek TEAM 222 Project	$15,000	$19,995	In progress	N/A	N/A	N/A
	FY18	South Bay Clean Creeks Coalition	Friends of Coyote Creek Watershed North Coyote Creek Stewardship Project	$35,000	$46,665	In progress	N/A	N/A	N/A
	FY19	Gilroy Compassion Center	South County Creeks Team Project	$30,000	$38,590	In Progress	N/A	N/A	N/A
	FY19	Grassroots Ecology	Young Watershed Stewards Project	$44,301	$167,781	In Progress	N/A	N/A	N/A
						Estimated Total	242,643 pounds	121.2 tons	1,210.5 cubic yards

[1] These numbers are the original reported by each grantee. The other numbers were converted by staff.
[2] This number was corrected from a previous miscalculation.

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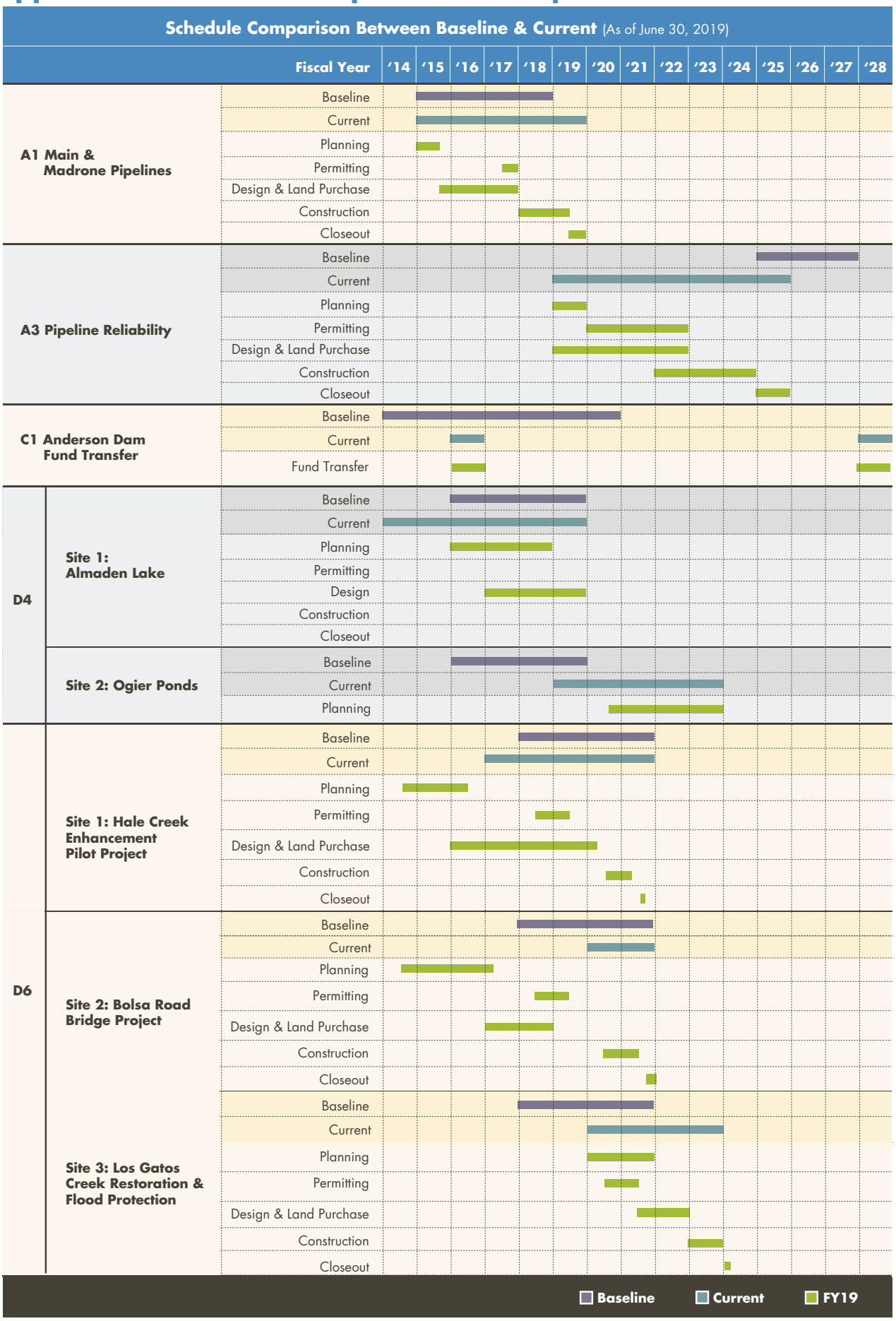
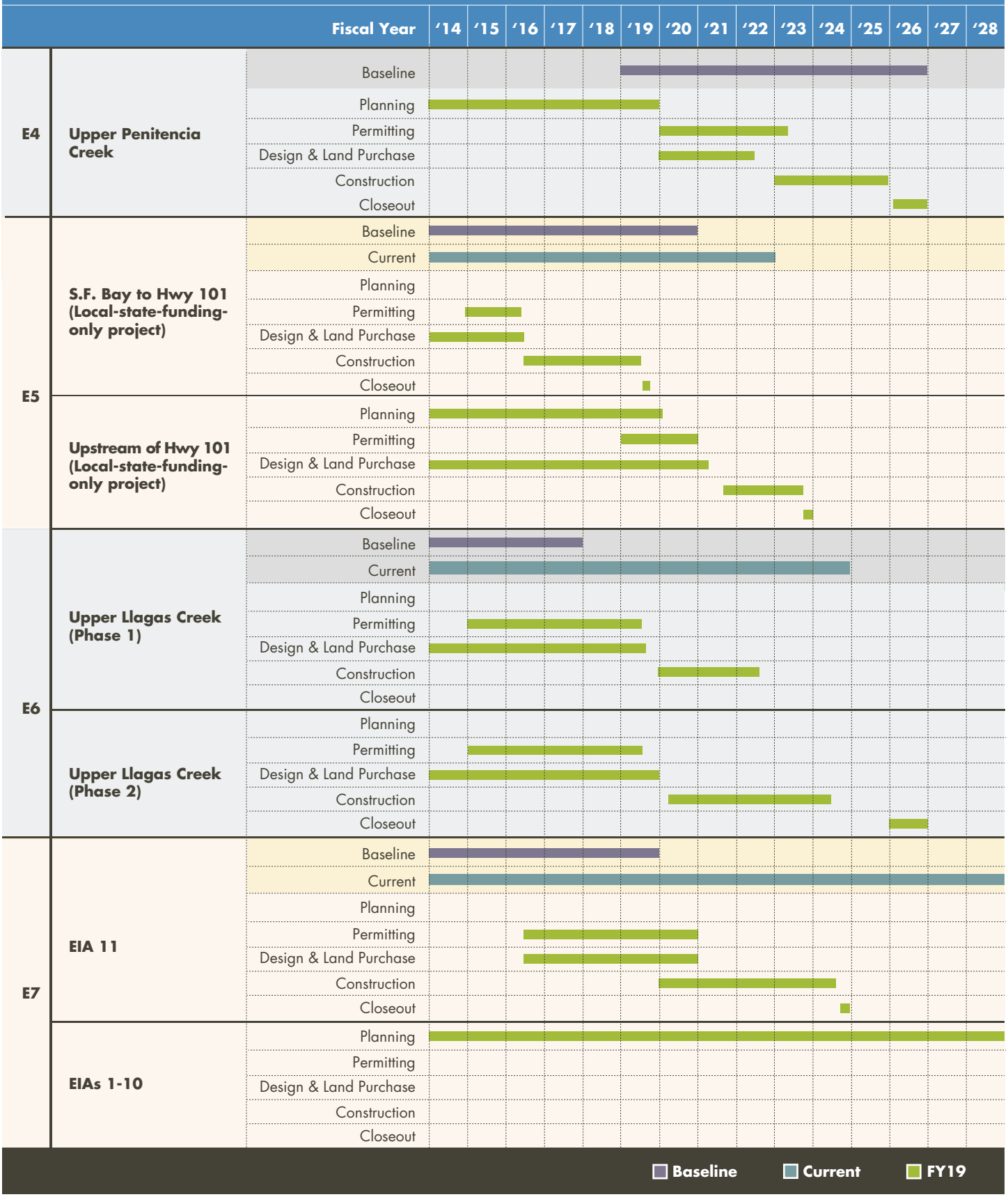
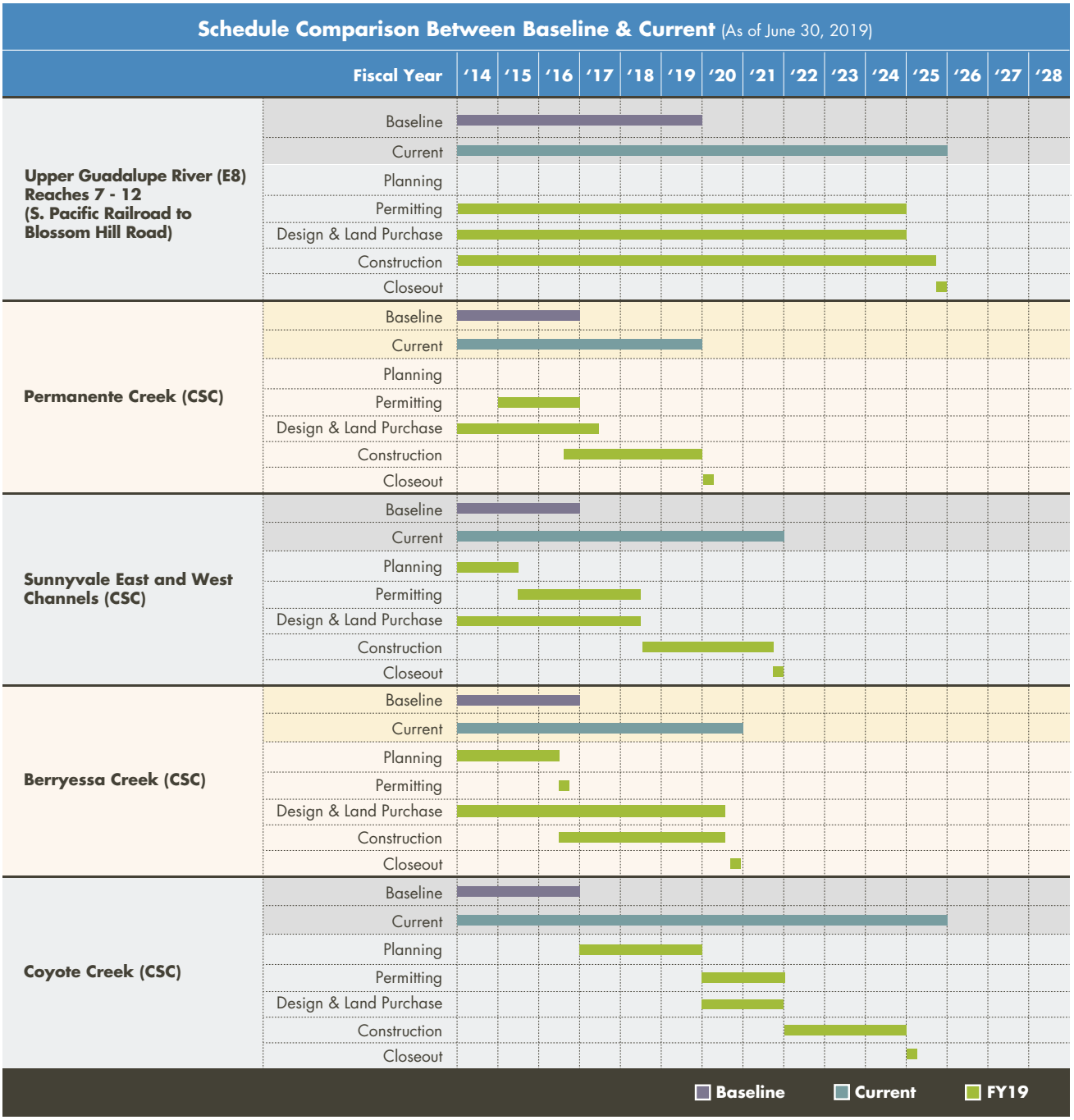
Appendix F: Schedule Comparison for Projects



Schedule Comparison Between Baseline & Current (As of June 30, 2019)




Schedule Comparison Between Baseline & Current (As of June 30, 2019)
Fiscal Year
'14
'15
'16
'17
'18
'19
'20
'21
'22
'23
'24
'25
'26
'27
'28
Upper Guadalupe River (E8) Reaches 7 - 12 (S. Pacific Railroad to Blossom Hill Road)
Permanente Creek (CSC)
Sunnyvale East and West Channels (CSC)
Berryessa Creek (CSC)
Coyote Creek (CSC)
Baseline
Current
Planning
Permitting
Design & Land Purchase
Construction
Closeout
Baseline
Current
FY19

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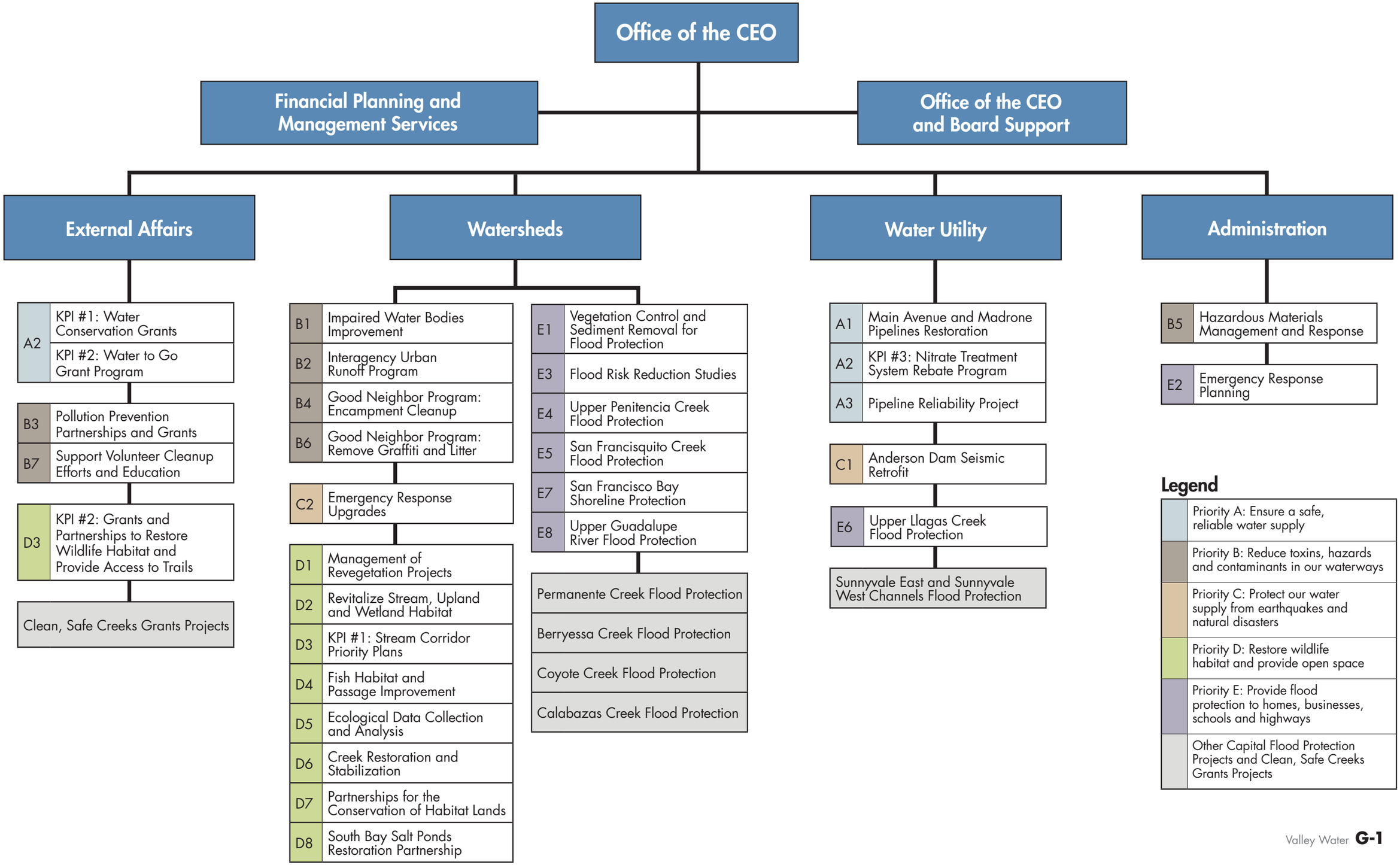
Appendix G: Projects by Organization Structure



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Appendix H: Projects by Valley Water Mission Area

Water Supply

- A1 Main Avenue and Madrone Pipelines Restoration
- A3 Pipeline Reliability Project
- C1 Anderson Dam Seismic Retrofit

Flood Protection

- B4 Good Neighbor Program: Encampment Cleanup
- C2 Emergency Response Upgrades
- E1 Vegetation Control and Sediment Removal for Flood Protection
- E2 Emergency Response Planning
- E3 Flood Risk Reduction Studies
- E4 Upper Penitencia Creek Flood Protection
- E5 San Francisquito Creek Flood Protection
- E6 Upper Llagas Creek Flood Protection
- E7 San Francisco Bay Shoreline Protection
- E8 Upper Guadalupe River Flood Protection

- Permanente Creek Flood Protection
- Sunnyvale East and Sunnyvale West Channels Flood Protection
- Berryessa Creek Flood Protection
- Coyote Creek Flood Protection
- Calabazas Creek Flood Protection

Stewardship

- A2 Safe, Clean Water Partnerships and Grants
- B1 Impaired Water Bodies Improvement
- B2 Interagency Urban Runoff Program
- B3 Pollution Prevention Partnerships and Grants
- B4 Good Neighbor Program: Encampment Cleanup
- B5 Hazardous Materials Management and Response
- B6 Good Neighbor Program: Remove Graffiti and Litter
- B7 Support Volunteer Cleanup Efforts and Education
- D1 Management of Revegetation Projects
- D2 Revitalize Stream, Upland and Wetland Habitat
- D3 Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails
- D4 Fish Habitat and Passage Improvement
- D5 Ecological Data Collection and Analysis
- D6 Creek Restoration and Stabilization
- D7 Partnerships for the Conservation of Habitat Lands
- D8 South Bay Salt Ponds Restoration Partnership

- E4 Upper Penitencia Creek Flood Protection
- E5 San Francisquito Creek Flood Protection
- E6 Upper Llagas Creek Flood Protection
- E7 San Francisco Bay Shoreline Protection

- Permanente Creek Flood Protection
- Clean, Safe Creeks Grants Projects

Legend

- Priority A: Ensure a safe, reliable water supply
- Priority B: Reduce toxins, hazards and contaminants in our waterways
- Priority C: Protect our water supply from earthquakes and natural disasters
- Priority D: Restore wildlife habitat and provide open space
- Priority E: Provide flood protection to homes, businesses, schools and highways
- Other Capital Flood Protection Projects and Clean, Safe Creeks Grants Projects

Please note that some projects have multiple benefits; therefore they are listed under more than one mission area.

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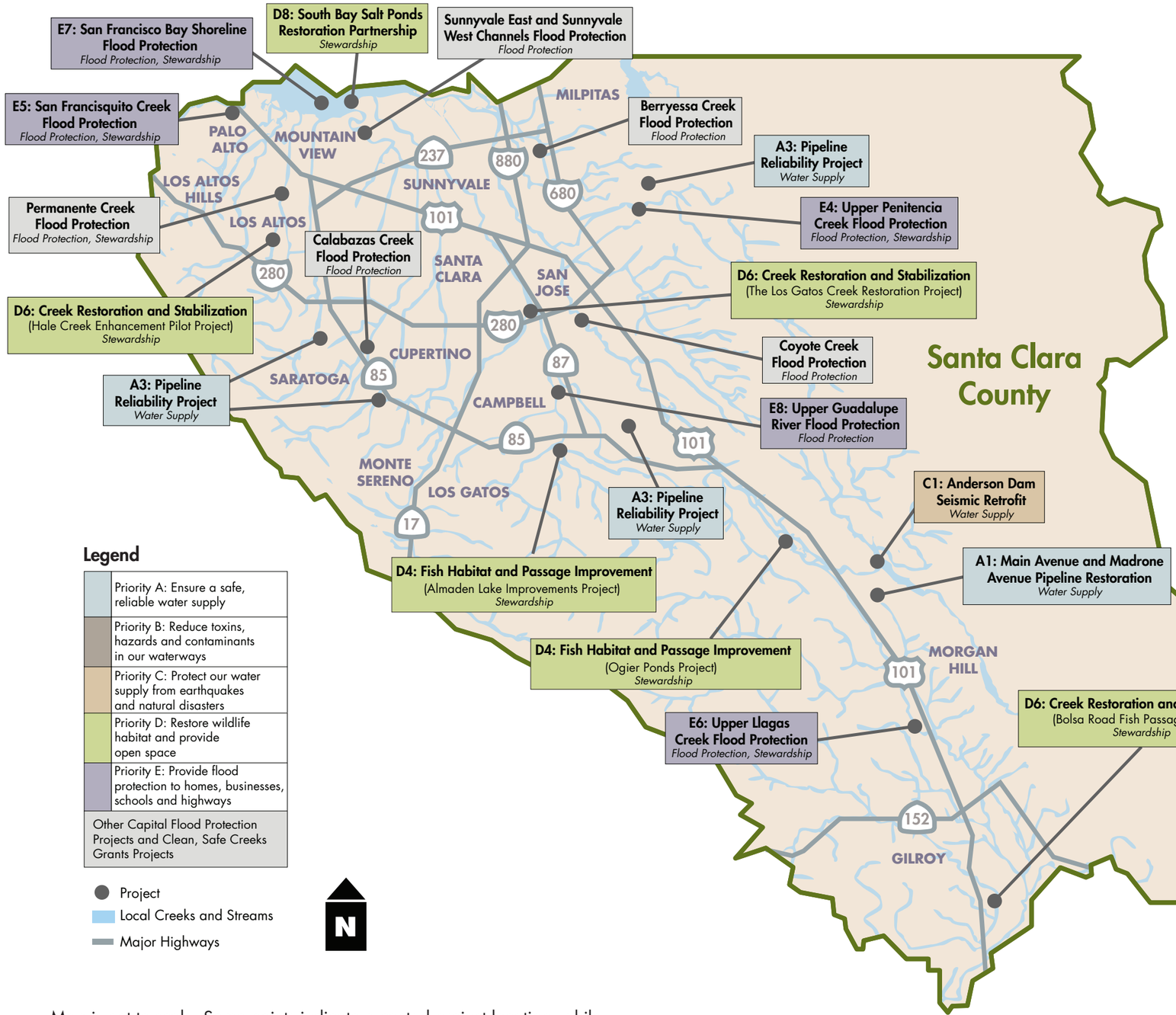
Appendix I: Countywide Map of Projects



Legend

	Priority A: Ensure a safe, reliable water supply
	Priority B: Reduce toxins, hazards and contaminants in our waterways
	Priority C: Protect our water supply from earthquakes and natural disasters
	Priority D: Restore wildlife habitat and provide open space
	Priority E: Provide flood protection to homes, businesses, schools and highways
Other Capital Flood Protection Projects and Clean, Safe Creeks Grants Projects	

- Project
- Local Creeks and Streams
- Major Highways

Countywide Projects

A2: Safe, Clean Water Partnerships and Grants *Stewardship*	D1: Management of Revegetation Projects *Stewardship*
B1: Impaired Water Bodies Improvement *Stewardship*	D2: Revitalize Stream, Upland and Wetland Habitat *Stewardship*
B2: Interagency Urban Runoff Program *Stewardship*	D3: Grants and Partnerships to Restore Wildlife Habitats and Provide Access to Trails *Stewardship*
B3: Pollution Prevention Partnerships and Grants *Stewardship*	D4: Fish Habitat and Passage Improvement *Stewardship*
B4: Good Neighbor Program: Encampment Cleanup *Flood Protection, Stewardship*	D5: Ecological Data Collection and Analysis *Stewardship*
B5: Hazardous Materials Management and Response *Stewardship*	D7: Partnerships for the Conservation of Habitat Lands *Stewardship*
B6: Good Neighbor Program: Remove Graffiti and Litter *Stewardship*	E1: Vegetation Control and Sediment Removal for Flood Protection *Flood Protection*
B7: Support Volunteer Cleanup Efforts and Education *Stewardship*	E2: Emergency Reponse Planning *Flood Protection*
C2: Emergency Response Upgrades *Flood Protection*	E3: Flood Risk Reduction Studies *Flood Protection*
	Clean, Safe Creeks Grants Projects *Stewardship*

Map is not to scale. Some points indicate a central project location, while the geographic area of benefit may be broader. For an interactive map with specific project locations and reaches, visit valleywater.org.

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Appendix J: Glossary

1% flood
A flood that has a 1% chance of occurring in any given year; also referred to as a 100-year flood.

50-year flood
A flood that has a 2% chance of occurring in any given year.

100-year flood
A flood that has a chance of occurring an average of once every 100 years; also referred to as a 1% flood.

Acre-feet (AF)
An acre-foot of water would cover 1 acre of land to a depth of 1 foot. 1 acre-foot equals approximately 325,000 gallons, the average amount of water used by 2 families of 5 in 1 year.

Advanced Quantitative Precipitation Information (AQPI)
A regional project awarded to the NOAA which consists of improved mapping and weather data for estimating precipitation, as well as a series of updated forecasting systems for more accurate weather prediction.

Anaerobic
Defines an absence of oxygen or an organism which does not require oxygen to live.

Atmospheric river (AR)
Long, narrow regions in the atmosphere which transport most of the water vapor outside the tropic regions. When atmospheric rivers face landfall, they deposit most of their vapors in the form of rain or snow.

Aquifer
An underground geologic formation of rock, soil, or sediment that is saturated with water; an aquifer stores groundwater.

Bypass channel
A channel built to carry excess water from a stream, or to divert water from the main channel.

Booms
Increase in populations which signal almost or near-exponential growth.

Trash capture devices
Innovative devices used to capture wastes and trash in bodies of water and on land. Comprise of nets and sharp implements which can snare waste items.

Cleanup
The removal of trash and debris resulting from encampments; by Valley Water or by Valley Water in coordination with other agencies.

Glossary

Diameter at breast height (DBH)
Measuring the diameter of a tree is most often measured at 4.5 feet (1.7m). This specified height is often where data-points such as growth, volume, and yield tables.

Ecosystem
An ecological community of plants, animals, and microorganisms in their environment, functioning together as a unit.

Ecological service index (ESI)
Index used to measure ecosystem services within multifunctional landscapes, typically defined as a synergistic approach to bridge the gap between ecological services and the needs of a particular landscape.

Ecotone
Transition area between two differing ecological spaces. Retains some of the characteristics of each respective ecological space, yet contains species not typically found in either environment.

Encampment (homeless)
1 or more structures occupied by an individual or family that is located illegally on Valley Water or other public property. An area where there are no structures, but where personal property is stored is also considered an encampment.

Environmental enhancement
Action taken by Valley Water that benefits the environment, is not mitigation and is undertaken voluntarily. Enhancement actions may include environmental preservation or creation. In instances where enhancements are located in the same vicinity as a mitigation project, actions must exceed required compliance activities to be considered environmental enhancements.

Epilimnion
The upper, wind-mixed layer of a lake which has been thermally stratified.

Erosion
The process by which soil is removed from a place by forces such as water or construction activity, and eventually deposited at a new place as sediment.

Fiscal year (FY)
A period that a company or government uses for accounting purposes and preparing financial statements. The fiscal year may or may not be the same as a calendar year. Valley Water uses a fiscal year that begins on July 1 and ends on June 30, which coincides with the State of California's fiscal year. The fiscal year is denoted by the year in which it ends, so spending incurred on November 14, 2015, would belong to fiscal year 2016. The federal government's fiscal year begins on October 1 and ends on September 30.

Fisheries
An area with an associated fish or aquatic population.

Glossary

Fisheries and Aquatic Habitat and Collaborative Effort (FAHCE)
Seeks to improve aquatic spawning and rearing habitat and fish passage for migration to and from the watersheds of Coyote and Stevens creeks as well as Guadalupe River. Improvements include modifications to reservoir operations to provide instream flows, restoration measures to improve habitat conditions and fish passage, as well as monitoring and adaptive management techniques.

Fish passage
A generic term for several methods incorporated into flood protection projects which allow native fish species to travel upstream to spawn.

Flood
A temporary inundation of inland or tidal waters onto normally dry land areas.

Flood conveyance capacity
The maximum amount of water that can flow through a channel, stream, or culvert before there is flooding of surrounding properties.

Floodplain
The low, flat, periodically flooded lands adjacent to creeks and rivers.

Floodplain management
A city or county program of corrective, preventive and regulatory measures to reduce flood damage and encourage the natural and beneficial functions of floodplains. Careful local management of development in the floodplains results in construction practices that can reduce flood damages.

Floodwall
Walls used as levees to contain floodwaters within a stream. Floodwalls are used when right-of-way is limited.

Geomorphology/geomorphic
The study of the natural relationship between a stream and its bank and bed; pertaining to those processes that affect the form or shape of the surface of the earth, including creeks and streams.

Geotechnical
A field of study which explicitly deals with soil and rock behavior from an engineering perspective. Geotechnical engineers must assess risks such as landslides, slope stability, falling rocks, and avalanches.

Groundwater
Water that is found beneath the surface in small pores and cracks in the rock and substrate.

Habitat
The specific, physical location or area in which a particular type of plant or animal lives. To be complete, an organism's habitat must provide all of the basic requirements of life for that organism.

High Resolution Rapid Refresh (HRRR)
Real-time 3-km resolution, hourly updated, cloud-resolving, convection-allowing atmospheric model, initialized by 3km grids with 3km radar assimilation. Such systems as the HRRR improve the efficacy of

weather updating systems and weather pattern data.

Hydraulics
The properties and behaviors of fluids, such as water.

Hydrology
The behavior (properties, distribution, and circulation) of water in the atmosphere, on land, and in the soil.

Hypolimnion
Dense, bottom layer of water in a thermally stratified lake. In the summer, lakes separate into layers: epilimnion (top of the lake) and the hypolimnion (bottom), with a thermocline layer in the middle. Typically, the hypolimnion is the coldest layer of a lake in summer and is isolated from surface wind-mixing. During stratification, oxygen can be depleted in the hypolimnion.

Hypolimnion Oxygenation Systems
Commonly used to increase dissolved oxygen concentrations in the hypolimnion of lakes and reservoirs. Benefits include maintenance of an oxygenated source to cool water, decrease in nutrient loading, inhibiting the release of harmful sediments, as well as maintaining a summer habitat for cold-water organisms.

Impaired water bodies
Waters that are too polluted or otherwise degraded to meet the water quality standards set by the State of California. Under the federal Clean Water Act, California is required to develop lists of impaired water bodies, including creeks, streams, and lakes.

Invasive plants
A non-native plant species that has spread into native or minimally managed plant communities (habitats).

Large woody debris (LWD)
The logs, sticks, branches, and other wood that falls into streams and rivers. This debris can influence the flow and shape of the stream channel. LWD plays an important biological role in streams by increasing channel complexity, enhancing fish habitat, and creating diversity in the food web.

Levee
An embankment constructed to provide flood protection from seasonal high water.

Limiting factors analysis (LFA)
A technique which the business needs to produce the products it sells, helps maximize profits when there are scarce resources.

Methylation
The complex process by which inorganic mercury in surface water is converted to toxic methylmercury, the only form of mercury that accumulates appreciably in fish.

Methylmercury
An organic, highly toxic form of mercury that easily bioaccumulates in organisms, increasing in

concentration as it travels up the food chain. Because of mercury contamination the public is advised against consuming fish caught in some Santa Clara County reservoirs and ponds.

Mitigation
Action taken to fulfill CEQA/NEPA, permit requirements and court mandated mitigation to avoid, minimize, rectify or reduce adverse environmental impacts, or compensate for the impact(s) by replacing or providing substitute resources or environments.

Mitigated negative declaration (MND)
A negative declaration that incorporates revisions (mitigation measures) in the proposed in the project to ensure that no significant impacts on the environment can or will occur.

Modified floodplain
A flood protection technique where land adjacent to a creek is lowered, allowing floodwaters to spread out over a wider area while containing the flow, and reducing the risk of damaging floods. A modified floodplain is often planted with native riparian species.

Natural flood protection
A multiple-objective approach to providing environmental quality, community benefit and protection from creek flooding in a cost-effective manner through integrated planning and management that considers the physical, hydrologic and ecologic functions and processes of streams within the community setting.

Oxygenation treatment systems
Treatment systems which help increase the relative oxygen levels in a body of water

Pay-as-you-go
A funding mechanism which collects revenue until sufficient funds are available to begin construction of a project, in contrast to debt financing, in which a large sum is borrowed so that construction can begin sooner.

Permitting requirements
A mechanism used to enforce state and federal laws that protect environmentally sensitive areas. Before moving forward on projects, Valley Water is required to obtain permits from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, NOAA Fisheries, Regional Water Quality Control Board, and the California Department of Fish and Game. Each permit gives the permitting agency an opportunity to attach specific measures to the project to reduce impact on the environment.

Plant palette
A master list of appropriate plants that can be drawn from to create a specific assemblage of plants well-matched to a particular area or project's physical, hydrological and ecological conditions.

Preservation
Action taken to protect an ecosystem or habitat area by removing a threat to that ecosystem or habitat, including regulatory actions and the purchase of land and easements.

Reach (creek)
A portion of a creek or watercourse usually defined by both an upstream and a downstream unit.

Glossary

Recharge
The addition of new water to an aquifer or to the zone of saturation. See groundwater.

Respond
For hazardous materials response (project B5) "Responded to" means that responder arrives at site within 2 hours. For litter and graffiti removal (project B6) "Responded to" means that a request for Valley Water action is acknowledged either verbally, in writing, or by email within 5 working days.

Restoration/restore
Action taken by Valley Water, to the extent practicable, toward the re-establishment as closely as possible of an ecosystem's pre-disturbance structure, function, and value, where it has been degraded, damaged, or otherwise destroyed.

Revegetate
To re-establish vegetation in areas which have been disturbed by project construction.

Revitalize
Improve habitat value, particularly in an effort to connect contiguous creek reaches of higher value, by removing invasive, non-native vegetation and diseased and/or non thriving specimens, applying mulch to suppress weed competition, revegetating sites with native plants, and installing predation prevention measures such as browse protection or cautionary fencing to reduce impacts from animals and vandals.

Riparian
Pertaining to the banks and adjacent terrestrial habitat of streams, creeks, or other freshwater bodies and watercourses.

Riparian corridor
The riverside or riverine environment next to a stream channel.

Riparian ecosystem
A natural association of soil, plants and animals existing within the floodplain of a stream, and dependent for their survival on high water tables and river flow.

Sediment/sedimentation
Mineral or organic material that is deposited by moving water and settles at the bottom of a waterway. Sediment in a lake, reservoir or stream can either be suspended in the water column or deposited on the bottom. Sediment usually consists of eroded material from the watershed, precipitated minerals, and the remains of aquatic organisms.

Special status species
Any species which is listed, or proposed for listing, as threatened or endangered by the U.S. Fish and Wildlife Service or National Marine Fisheries Service under the provisions of the Endangered Species Act; any species designated by the U.S. Fish and Wildlife Service as a "listed," "candidate," "sensitive," or "species of concern," and any species which is listed by the State of California in a category implying potential danger of extinction.

Special tax
Any tax imposed for specific purposes, or any tax imposed by a special purpose district or agency, such

as the Santa Clara Valley Water District. A special district contemplating a special tax levy must hold a noticed public hearing and adopt an ordinance or resolution prior to placing the tax on the ballot. The ordinance or resolution must specify the purpose of the tax, the rate at which it will be imposed, the method of collection, and the date of the election to approve the tax levy. Approval by a 2/3 vote of the city, county or district electorate is necessary for adoption.

State Water Resources Control Board
The State Water Resources Control Board (State Water Board) was created by the Legislature in 1967. The mission of the State Water Board is to ensure the highest reasonable quality for waters of the State, while allocating those waters to achieve the optimum balance of beneficial uses. There are 9 regional water quality control boards that exercise rulemaking and regulatory activities by basin. Santa Clara County is part of 2 regions: Region 2 - San Francisco Regional Water Quality Control Board (north of Morgan Hill) and Region 3 - Central Coast Regional Water Quality Control Board (south of Morgan Hill).

Subvention
Subventions are reimbursements for rights-of-way and relocation costs of channel improvements and levee projects provided to flood control agencies by the Department of Water Resources Flood Subventions Program.

Stewardship
To entrust the careful and responsible management of the environment and natural resources to one's care for the benefit of the greater community.

Stream Corridor Priority Plan (SCPP)
A document which identifies priorities for stream restoration and which can be a source of information to guide restoration actions by all parties.

Stream maintenance program (SMP)
Removal of sediment, management of vegetation, clearing trash, stabilization of eroded riverbanks of a portion of 278 waterbodies in Santa Clara County.

Stratification
Layering that occurs in most sedimentary rocks and in igneous rocks which have been formed at the Earth's surface from lava flows and fragmental deposits. Layers range from several millimeters to several meters in thickness and vary in shape greatly.

Threatened species
A species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Total Maximum Daily Loads (TMDLs)
The maximum pollutant load a waterbody can receive (loading capacity) without violating water quality standards.

Urban runoff
The water that runs over the impervious areas in cities, collecting pollutants as it flows. Runoff is recognized as a major source of water impairment.

Glossary

Watershed
Land area from which water drains into a major body of water.

Watershed stewardship
Protecting and enhancing the county's creeks, streams and water bodies in order to preserve a vibrant, healthy ecosystem, and provide recreational opportunities when appropriate.

WebEx
A system for holding meetings over the web which allows anyone with an internet connection to participate in real time with 2-way communication.

Wetland
Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support vegetation adapted for life in saturated soil conditions, as well as the diverse wildlife species that depend on this habitat.

Valley Water

Clean Water • Healthy Environment • Flood Protection

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